Nguyen 08/643,172

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=> d query
L1             1 SEA FILE=REGISTRY BROMOTRIFLUOROMETHANE/CN
L2             1 SEA FILE=REGISTRY IODOTRIFLUOROMETHANE/CN
L3             1 SEA FILE=REGISTRY CHLOROTETRAFLUOROETHANE/CN
L4             1 SEA FILE=REGISTRY "HCFC 22"/CN
L5             1 SEA FILE=REGISTRY "HFC 236FA"/CN
L6             1 SEA FILE=REGISTRY "HFC 227"/CN
L7             1 SEA FILE=REGISTRY "FC 218"/CN
L8             1 SEA FILE=REGISTRY "FC 3110"/CN
L9             2 SEA FILE=REGISTRY ("HFC 134A"/CN OR "HFC 134A-HYDROGEN BROMIDE
                 MIXT."/CN)
L10            1 SEA FILE=REGISTRY PENTAFLUOROETHANE/CN
L11            1 SEA FILE=REGISTRY "FC 318"/CN
L12            1 SEA FILE=REGISTRY "HFC 32"/CN
L13            1 SEA FILE=REGISTRY "HFC 125"/CN
L14            1 SEA FILE=REGISTRY "FC 116"/CN
L15            1 SEA FILE=REGISTRY TRIFLUOROMETHANE/CN
L16       133186 SEA FILE=HCA ZEOLITE# OR ALUMINOSILICATE# OR SILICA###(A)(ALUMI
                 NA OR ALUMINO) OR ANALCIME# OR WAIRAKITE# OR POLLUCITE# OR
                 SODALITE#
L17        17290 SEA FILE=HCA LINDE#(W)A OR (ZK OR ZSM)(W)5 OR ZSM5 OR ZK5 OR
                 FAUJASITE# OR CHABAZITE# OR CHABASITE# OR GMELINITE# OR
                 ERIONITE# OR OFFRETITE#
L18         2461 SEA FILE=HCA LEVYNITE# OR NATROLITE# OR SCOLECITE# OR MESOLITE#
                  OR EDINGTONITE# OR THOMSONITE# OR GONNARDITE# OR PHILLIPSITE#
L19         9051 SEA FILE=HCA HARMOTONE# OR GISMONDINE# OR GARRONITE# OR
                 MORDENITE# OR DACHIARDITE# OR ACHIARDITE# OR HEULANDITE# OR
                 BREWSTERITE#
L20         6437 SEA FILE=HCA EPISTILBITE# OR YUGAWARALITE# OR LAUMONTITE# OR
                 FERRIERITE# OR PAULINGITE# OR STILBITE# OR ANALCITE# OR
                 CLINOPTILOLITE#
L21          165 SEA FILE=HCA CYMRITE# OR MOLECULAR(W)SIEVE?(4W)(3A OR 4A OR (3
                 OR 4)(W)A)
L22        10966 SEA FILE=HCA MOLECULAR(W)SIEVE?
L23         4746 SEA FILE=HCA FIRE(1W)EXTINGUISH?
L24          174 SEA FILE=HCA (L1 OR L2 OR L3 OR L4 OR L5 OR L6 OR L7 OR L8 OR
                 L9 OR L10 OR L11 OR L12 OR L13 OR L14 OR L15) AND (L16 OR L17
                 OR L18 OR L19 OR L20 OR L21 OR L22)
L25            1 SEA FILE=HCA L24 AND L23
L26       137708 SEA FILE=HCA DESICCA? OR DRYING(W)AGENT# OR DEHYDRAT?
L27         1433 SEA FILE=HCA WATERFREE OR WATERLESS
L28      3376245 SEA FILE=HCA WATER OR H2O OR MOIST? OR WET#### OR DAMP? OR AQ#
                 OR AQUEOUS
L29       329749 SEA FILE=HCA L28(3A)(REMOV? OR REDUC? OR REDN# OR ABSORB? OR
                 ABSORP? OR ADSORB? OR ADSORP? OR ELIMIN? OR DECRE? OR DIMINISH?
                  OR CONTROL?)
L30        53611 SEA FILE=HCA L28(3A)(LOWER? OR LESSEN? OR RID OR RIDS OR
                 MINIMI? OR LIMIT? OR CHEMISOR? OR SORP? OR SORB? OR DESORP? OR
                 DESORB?)
L31            2 SEA FILE=HCA L28(3A)(PERSORP? OR PERSORB?)
L32       848509 SEA FILE=HCA DRYER? OR DRIES OR DRIED OR DRYING OR DRIER# OR
                 DRY OR DRYED OR DRYS
L33          750 SEA FILE=HCA ANALCINE# OR ORGANOLITE# OR PERMUTITE#
L34          174 SEA FILE=HCA (L1 OR L2 OR L3 OR L4 OR L5 OR L6 OR L7 OR L8 OR
                 L9 OR L10 OR L11 OR L12 OR L13 OR L14 OR L15) AND ((L16 OR L17
                 OR L18 OR L19 OR L20 OR L21 OR L22) OR L33)
L35         2246 SEA FILE=HCA L32(5A)(L16 OR L17 OR L18 OR L19 OR L20 OR L21 OR
                 L22)
L36           20 SEA FILE=HCA L34 AND L35
L37           36 SEA FILE=HCA L34 AND ((L26 OR L27) OR (L29 OR L30 OR L31))
L38           40 SEA FILE=HCA L23 AND ((L16 OR L17 OR L18 OR L19 OR L20 OR L21
                 OR L22) OR L33)
L39           81 SEA FILE=HCA L25 OR (L36 OR L37 OR L38)
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L40 64 SEA FILE=HCA L39 NOT 2001-2002/PY

=> d cbib abs hitrn l40 1-64

L40 ANSWER 1 OF 64 HCA COPYRIGHT 2002 ACS
136:169945 Powdered **fire-extinguishing** agent. Skoda, Josef; Filip, Tomas; Vecera, Karel; Masek, Ivan (Markes Libor, Czech Rep.). Czech Rep. CZ 287257 B6 20001011, 4 pp. (Czech). CODEN: CZXXED. APPLICATION: CZ 1997-1659 19970529.
AB The **fire extinguisher** contains **aluminosilicates** 35-95, hydrophobization additives 0.1-10 wt.%, and phosphates, bicarbonates, and/or sulfates and/or anticatalytic additives balance.

L40 ANSWER 2 OF 64 HCA COPYRIGHT 2002 ACS
136:104720 Multipurpose **fire-extinguishing** powder. Antonov, A. V.; Beloshitskii, N. V.; Smirnov, A. S.; Smirnov, A. G.; Burygin, O. P.; Agalarova, S. M.; Shabalova, O. N. (Zakrytoe Aktsionernoe Obshchestvo "EKOKhIMMASh", Russia). Russ. RU 2159138 C2 20001120, No pp. given (Russian). CODEN: RUXXE7. APPLICATION: RU 1998-123738 19981223.
AB A multipurpose **fire-extinguishing** powder consists of ammonium sulfate (5-50 wt%), highly-dispersed hydrophobic silicon dioxide (1-3 wt%), dispersed **aluminosilicate** (2-10 wt%), graphite (1-5 wt%), and ammophos. At least one of the following materials are used as an **aluminosilicate** additive: phlogopite, muscovite, industrial dust, preferably waste **clinoptilolite**. The source of the graphite is wastes from the carbon electrode prodn and coke, or expanded graphite with an expansion degree of 100-150.

L40 ANSWER 3 OF 64 HCA COPYRIGHT 2002 ACS
135:333048 Ammophos-based **fire-extinguishing** powder composition containing silica and **aluminosilicate** filler. Grechman, A. O. (Russia). Russ. RU 2149665 C1 20000527, No pp. given (Russian). CODEN: RUXXE7. APPLICATION: RU 1999-101784 19990204.
AB A compn. designed for extinguishing fires, including class A, B, or C fires as well as those on powered elec. equipment, consists of a mech. mixt. of 25-50-.mu. powders contg. predried ammophos (97-94%), hydrophobic silica (Aerosil or silochrome, 3-8%), and **aluminosilicate** filler (phlogopite or pyrophyllite, 3-5%). The advantages include optimized contents of components, increased **fire-extinguishing** capacity, prolonged useful lifetime, and increased range of use.

L40 ANSWER 4 OF 64 HCA COPYRIGHT 2002 ACS
134:90995 Investigation of moisture scavengers in pressurized metered-dose inhalers. Williams, R. O., III; Hu, C. (Division of Pharmaceutics, College of Pharmacy, The University of Texas at Austin, Austin, TX, 78712, USA). S.T.P. Pharma Sciences, 10(3), 243-250 (English) 2000. CODEN: STSSE5. ISSN: 1157-1489. Publisher: Editions de Sante.
AB Moisture ingress into pressurized metered-dose inhalers (pMDIs) and its influence on the formulation stability of pMDIs has been reported. This research work was undertaken to investigate a prototype **moisture** scavenger system to **minimize** the **water** level in pMDIs in order to control drug crystal growth, degrdn., and erratic drug delivery performance. Uncoated or hydroxypropyl Me cellulose (HPMC) coated silica gel beads (SGB), alumina **desiccant** beads (ADB), and mol. sieve beads (MSB) were incorporated into **control** and **water** spiked pMDIs contg. HFA 134a or HFA 227. The water levels in pMDIs were detd. by Karl-Fischer titrn. The water scavenge efficiency of different **desiccants** was compared. Generation of **desiccant** particles or HPMC in the emitted dose was evaluated by examg. the existence and concn. of **desiccant** particles and HPMC in the aerosol cloud using energy dispersive spectroscopy (EDS), at.

absorption spectrophotometry, and gel permeation chromatog. (GPC). The water level in the water-spiked pMDIs was significantly decreased compared to the control pMDIs when **desiccants** were incorporated into the pMDIs. The moisture scavenging ability of uncoated and HPMC coated SGB. ADB, and MSB were similar, Pre-washing **desiccant** beads using HFA 134a or HFA 227 prior to incorporation into pMDIs prevented the generation of silica particles in the aerosol cloud emitted from pMDIs contg. SGB. HPMC coating of ADB and MSB also effectively prevented the generation of **desiccant** particles in the aerosols emitted from these **desiccant**-contg. pMDIs. The concn. of HPMC in the aerosols emitted from pMDIs contg. HPMC coated **desiccants** was extremely low. Pre-washed SGB and HPMC coated ADB and MSB were effective moisture scavengers in the pMDI systems investigated. The results of this investigation indicated that incorporation of these prototype **desiccant** systems into pMDIs may minimize the undesired consequences caused by moisture ingress into pMDI canisters.

IT **431-89-0**, HFA 227 **811-97-2**, HFA 134a
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(investigation of moisture scavengers in pressurized metered-dose inhalers)

L40 ANSWER 5 OF 64 HCA COPYRIGHT 2002 ACS

132:353138 Thermodynamics of adsorption of fluorochlorohydrocarbons, fluorohydrocarbons, and hydrocarbons on various technical adsorbents. Riedel, Volker; Radeke, Karl-Heinz; Schroder, Heike; Wutzler, Ronny (INTUS e.V., Berlin, D-12489, Germany). Chemische Technik (Leipzig), 52(1), 19-23 (German) 2000. CODEN: CHTEAA. ISSN: 0045-6519. Publisher: Fuchs--Informationsaufbereitung und -verbreitung.

AB Adsorption isotherms of the refrigerants R 12 and R 13 onto active carbon C 40/4 (Carbotech), Lewatit (Wofatit) EP 63 (Bayer) and the dealuminized **zeolite** DAY (Degussa) were measured using an adsorption automate ASAP 2000M (Micromeritcs), further, some points far from condensation were realized for R 11. For the desired tech. purposes of FCHC gas sampling from landfilling waste disposal or air purifn. at refrigerator recycling, only active C seems to be reasonable although adsorption (and also desorption) heats for this adsorbent and also its competitional **water adsorption** from **wet** air are the highest.
The adsorption heats range from 23 up to 70 kJ/mol increasing from **zeolite** to activated C. Furthermore, for a larger no. of hydrocarbons and fluorocarbons by gas chromatog. initial adsorption heats and entropies were measured; they increase with increasing molar volume and in the sequence from **zeolite** over polymer to active C.

IT **75-45-6**, R 22 **76-16-4**, Hexafluoroethane **76-19-7**
, Octafluoropropane **355-25-9**, Decafluorobutane
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(thermodn. of adsorption of fluorochlorohydrocarbons, fluorohydrocarbons, and hydrocarbons on various tech. adsorbents)

L40 ANSWER 6 OF 64 HCA COPYRIGHT 2002 ACS

132:310555 Equilibrium water capacity of **desiccants** in mixtures of HFC refrigerants and appropriate lubricants. Cavestri, Richard C.; Schafer, William R. (Imagination Resources, Inc., Dublin, OH, USA). ASHRAE Transactions, 105(2), 60-65 (English) 1999. CODEN: ASHTAG. ISSN: 0001-2505. Publisher: American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc..

AB The equil. water capacity with circulating hydroflourocarbon R-134a contg. a 2% (.+-.1%) 22 ISO-VG polyol ester lubricant at 24.degree. and 52.degree. were detd. for three prominent **desiccants** from three manufacturers as mixts. in an equal ratio of 1:1:1. The **desiccants** were: (1) 3A mol. sieve, (2) alumina beads, and (3) two 100% alumina bonded cores. Isothermal curves were obtained, and a validation of this procedure was performed, by producing an isothermal

curve of a std. type 3A mol. sieve in R-22 without lubricant under the same test conditions. These data compared favorably with manufacturers' and published data.

IT **75-45-6 811-97-2**, R134a
RL: PRP (Properties)
(systems, ester oil lubricant-**drying agent**-; equil. water capacity of **drying agents** in mixts. of hydrofluorocarbon refrigerants and synthetic ester-oil lubricating oils)

L40 ANSWER 7 OF 64 HCA COPYRIGHT 2002 ACS
132:281305 Powder-type product with complex effect for extinguishing of fires from classes A, B, C, and E. Grecu, Mihaela; Malacescu, Iulia; Lencu, Victor; Corciova, Stefan Ioan; Marinescu, Dan; Calota, Sorin; Stan, Gheorghe (S.C. Alchim Srl, Tulcea, Rom.). Rom. RO 108650 B1 19940729, 5 pp. (Romanian). CODEN: RUXXA3. APPLICATION: RO 1993-9300468 19930405.

AB The **fire-extinguishing** powder contains 50-95 active components from a group contg. Al oxide or hydroxide 20-80, detergent-grade synthetic **zeolite** 10-80, NaHCO3 .ltoreq.30 (preferably 10-30), Na2CO3 10-30, and optionally Na sesquicarbonate .ltoreq.20 wt.%, .ltoreq.40 additives for mobility enhancement from a group contg. ground quartzitic feldspar (contg. feldspar 45-55, quartz 34-45, and illite 1-6%) .ltoreq.25, zeolitic tuff .ltoreq.30, quartz dust .ltoreq.40, and alabaster .ltoreq.40 wt.%, 5-45 hydrophobization additive contg. Ca stearate 3-10 and optionally .gtoreq.1 of a group contg. talc 3-10, ground bentonite 20-35, ground chalk 5-40, dolomite 5, bentonitic clay 25, bleaching clay 20-25, and pptd. CaCO3 15-20 wt.%, and optionally additives such as .ltoreq.2 colloidal C and .ltoreq.5 wt.% urea. The powder contg. a low or no amt. of NaHCO3 is compatible with **fire-extinguishing** foams, efficient due to a large surface area, and inexpensive.

L40 ANSWER 8 OF 64 HCA COPYRIGHT 2002 ACS
132:95358 Post-treated combustion gases from combustion of pyrotechnics as **fire-extinguishing** compositions in enclosed areas. Drakin, Nikolai Vasilievich (R-Amtech International, Inc., USA). PCT Int. Appl. WO 2000003765 A2 20000127, 29 pp. DESIGNATED STATES: W: IL, NO; RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION: WO 1999-RU239 19990719. PRIORITY: RU 1998-113060 19980717; RU 1998-120263 19981113.

AB A method for introducing a **fire extinguishing** gas into an enclosed or semi-enclosed area consists of: (1) ignition of a pyrotechnic compn. to form gases and aerosols, (2) passing the combustion gases through a sorbent comprising an oxygen-contg. oxidizer for post-oxidn. of incompletely oxidized products, (3) cooling the gas and aerosol mixt. by direct or indirect heat exchange with a coolant (e.g., water or the sorbent itself), (4) passing the cooled gas and aerosol mixt. through a filtering sorbent, and (5) introduction of the **fire-extinguishing** gas into the space to be protected. The solid sorbent is selected from **zeolites**, **aluminosilicates**, silica gel, or activated charcoal; the oxygen-contg. oxidizer is an alkali metal nitrate; and the filtering sorbent typically contains alkali metal carbonates. The method can be triggered by heat or fire sensors located in the enclosed or semi-enclosed space that is to be protected. Typical facilities and systems that could benefit by such fire-protection systems include warehouses, garages, book storage areas, offices, workshops, engines and baggage compartments of vehicles, and ventilation systems of industrial plants and other buildings.

L40 ANSWER 9 OF 64 HCA COPYRIGHT 2002 ACS
132:13462 **Drying agents** for refrigerating cycle and their manufacture. Agawa, Masahiko; Mukai, Mamoru (Tosoh Corp., Japan). Jpn. Kokai Tokkyo Koho JP 11335117 A2 19991207 Heisei, 13 pp. (Japanese).

CODEN: JKXXAF. APPLICATION: JP 1998-143973 19980526.

AB The title **drying agent** consists of at least Na- and K-contg. A-type **zeolites** and high-purity kaolinitic clays, and contains .ltoreq.2.0 .times. 103 ppm F after sealed tube test using at least difluoromethane(HFC-32)-contg. hydrofluorocarbon-type alternates. The **drying agent** is manufd. by kneading with the **zeolite** above and the kaolinitic clay, forming the mixt., optionally impregnating with aq. alkali metal silicates, drying the form, and then firing. The **drying agent** is useful for hydrofluorocarbon alternates.

IT **75-10-5**, HFC-32
RL: NUU (Other use, unclassified); USES (Uses)
(manuf. of **drying agent** contg. Na- and K-contg. A-type **zeolite** and kaolinitic clay for prevention of F generation from difluoromethane-contg. hydrofluorocarbon-type alternate)

L40 ANSWER 10 OF 64 HCA COPYRIGHT 2002 ACS

131:247415 Hydrochlorofluorocarbon reactivity and structural characterization of zinc exchanged NaX. Ciraolo, M. F.; Norby, P.; Hanson, J. C.; Corbin, D. R.; Grey, C. P. (Chemistry Department, SUNY Stony Brook, Stony Brook, NY, 11794-3400, USA). Proceedings of the International Zeolite Conference, 12th, Baltimore, July 5-10, 1998, Meeting Date 1998, Volume 4, 2295-2299. Editor(s): Treacy, M. M. J. Materials Research Society: Warrendale, Pa. (English) 1999. CODEN: 68DCAH.

AB Solid-state MAS NMR and synchrotron X-ray powder diffraction were used to study fluorocarbon reactivity and cation positions of Zn2+-exchanged NaX **zeolites**. The structure of **dehydrated** ZnX was refined in the space group Fd3m; Zn2+ cations were located in 4 different positions, all lying along the [111] direction. Residual Na+ cations were located in the SII position in the super-cages. Tetrahedral extra-framework Al species were obsd. (by 27Al MAS NMR and diffraction) in the center of the **sodalite** cage. Reactions of HCFC-124a (CF2HCF2Cl) over ZnX were studied with NMR and by temp. programmed desorption/mass spectrometry (TPD/MS). Unsatd. products of dehydrofluorination and dehydrochlorination reactions (CF2CFCl and CF2CF2) were detected in TPD expts., while satd. products such as HFC-125 (CF3CF2H) were major products obsd. by 19F NMR.

IT **76-16-4 354-33-6**
RL: POL (Pollutant); RCT (Reactant); OCCU (Occurrence); RACT (Reactant or reagent)
(hydrochlorofluorocarbon adsorption on and reactivity with, and structural characterization of zinc-exchanged NaX **zeolites**)

L40 ANSWER 11 OF 64 HCA COPYRIGHT 2002 ACS

131:159318 **Fire extinguishing** method and **fire extinguisher** for safe evacuation. Nomi, Takashi (Nomi Bosai, Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 11226340 A2 19990824 Heisei, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1998-35065 19980217.

AB This **fire extinguishing** method includes processes of sucking air in a relatively closed region to be extinguished, compressing the air, filtering the compressed air with a mol. sieve capable of sepg. O and N to remove O and give N-enriched air, and turning back the N-enriched air to the region. Alternatively, an O-adsorptive solid adsorbent is employed instead of the mol. sieve. This **fire extinguisher** comprises a means for compressing air, either the mol. sieve or the solid adsorbent, and a circulation route for turning back N-enriched air. The method provides sufficient evacuation time at the time of fire fighting. The app. can be installed at low cost without requiring a large scale installation facility. The method and app. are esp. useful for a museum, a computer room, a semiconductor fabrication plant, a warehouse, and the likes.

L40 ANSWER 12 OF 64 HCA COPYRIGHT 2002 ACS
129:343271 Purification of trifluoromethane. Ono, Hiroki; Nakajo, Tetsuo; Oi, Toshio; Arai, Tatsuharu (Showa Denko K. K., Japan). Jpn. Kokai Tokkyo Koho JP 10306046 A2 19981117 Heisei, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1997-118322 19970508.
AB CHF3 was purified by (a) reaction of crude CHF3 contg. Cl- and/or Br-contg. compds. as impurities with HF in the presence of fluorination catalysts in gas phases at 120-400.degree. in the first reactors to convert the above-mentioned Cl and Br to HCl and HBr, (b) removal of acid components contg. HCl and HBr, and (c) **dehydration** by contact with **dehydrating** agents. A mixt. contg. 99.9221 vol.% CHF3 was treated with HF in the presence of the catalysts prepd. from CrCl3 and ZnCl2 supported on NST 3 (activated alumina) at 330.degree., treated with aq. alkali soln. to give a mixt. contg. 99.9971 vol.% CHF3.
IT **75-45-6P**, Chlorodifluoromethane
RL: BYP (Byproduct); RCT (Reactant); REM (Removal or disposal); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)
(purifn. of trifluoromethane by reaction with HF using fluorination catalysts, removal of acids, and **dehydration**)
IT **75-63-8P**, Bromotrifluoromethane
RL: BYP (Byproduct); REM (Removal or disposal); PREP (Preparation); PROC (Process)
(purifn. of trifluoromethane by reaction with HF using fluorination catalysts, removal of acids, and **dehydration**)
IT **75-46-7P**, Trifluoromethane
RL: PUR (Purification or recovery); SPN (Synthetic preparation); PREP (Preparation)
(purifn. of trifluoromethane by reaction with HF using fluorination catalysts, removal of acids, and **dehydration**)

L40 ANSWER 13 OF 64 HCA COPYRIGHT 2002 ACS
129:232979 Refrigerator and hydraulic medium. Tsuchiya, Tatsumi; Ide, Satoshi; Shibanuma, Takashi (Daikin Industries, Ltd., Japan). PCT Int. Appl. WO 9838264 A1 19980903, 35 pp. DESIGNATED STATES: W: JP, US; RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (Japanese). CODEN: PIXXD2. APPLICATION: WO 1998-JP286 19980122. PRIORITY: JP 1997-43242 19970227; JP 1997-223395 19970820.
AB A vapor compression refrigerator provided with a hydraulic medium comprising a coolant (esp., HFC 32) as the indispensable component and .gtoreq.1 lubricating basestocks selected from ether- and ester-base refrigerator oils, wherein a synthetic **zeolite** having an av. pore diam. of 2.6-3.0 .ANG. at 25.degree. is used as a **desiccant** for the hydraulic medium.
IT **75-10-5**, HFC 32 **354-33-6**, HFC 125 **811-97-2**, HFC 134a
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(coolant; refrigerator and hydraulic medium)

L40 ANSWER 14 OF 64 HCA COPYRIGHT 2002 ACS
129:177265 Drying R-407C and R-410A refrigerant blends with **molecular sieve desiccants**. Cohen, Alan P.; Tucker, Deidre M. (UOP Research Center, Des Plaines, IL, USA). ASHRAE Transactions, 104(1A), 396-401 (English) 1998. CODEN: ASHTAG. ISSN: 0001-2505. Publisher: American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc..
AB The hydrofluorocarbon (HFC) R-32 (CF2H2) is a component of refrigerant blends in the 407 and 410 series being tested and commercialized for use as replacements for R-502 and the hydrochlorofluorocarbon (HCFC) R-22. The mol. sieve **desiccants** used with chlorofluorocarbon (CFC) and HCFC mineral oil systems in the past have achieved high water capacity by excluding the refrigerant and **adsorbing** only the **water**. Unfortunately, R-32 is adsorbed on com. type 3A mol. sieve

desiccant products. The result of this adsorption is a loss of water capacity when drying R-32 compared to drying R-22 or R-502 and a reduced level of chem. compatibility of the **desiccant** with the refrigerant. Some compressor manufacturers are seeking a water concn. as low as 10 mg/kg (wt. ppm) in the circulating refrigerant of polyolester-lubricated refrigerating equipment using these HFC blends. This paper compares unmodified com. type 3A mol. sieve **desiccants** with a recently developed, modified 3A mol. sieve that excludes R-32. The modified 3A has better chem. compatibility with R-32 and high water capacity in liq. R-407C and R-410A. The drying rates of the two **desiccants** in R-407C and R-410A are similar. Data and test methods are reported on refrigerant **adsorption, water** capacity, drying rate, and chem. compatibility.

IT **75-45-6**, R-22
RL: TEM (Technical or engineered material use); USES (Uses)
(alternative to; drying R-407C and R-410A refrigerant blends with mol. sieve **desiccants**)

IT **75-10-5**, R-32
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(drying R-407C and R-410A refrigerant blends with mol. sieve **desiccants**)

L40 ANSWER 15 OF 64 HCA COPYRIGHT 2002 ACS

129:177253 Test method for inorganic acid removal capacity of **desiccants** used in liquid line filter driers. Cavestri, Richard C.; Schooley, Donald L. (Imagination Resources, Inc., Dublin, OH, USA). ASHRAE Transactions, 104(1B), 1335-1340 (English) 1998. CODEN: ASHTAG. ISSN: 0001-2505. Publisher: American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc..

AB For more than 40 yr, **desiccants** have had the vital role of maintaining refrigerant systems in a dry state. For this research, a small bench top, refrigerant flow-through, airless test instrument was constructed and used to measure accurately the inorg. acid uptake and to det. the equil. of circulating hydrogen chloride (HCl) in refrigerants. The research examd. circulating chloride ion isotherms at 75.degree.F (24.degree.C) and 125.degree.F (52.degree.C) with anhyd. HCl in refrigerant. The HCl was circulated through the system in two refrigerants, R-12 and R-22, contg. two moisture levels of 10 ppm and 60 ppm (.+-.5 ppm). Evaluations were performed on four **desiccants**: (1) 3A mol. sieve beads, (2) 4A mol. sieve beads, (3) aluminum trihydrate type D alumina beads, and (4) silica gel granules. Unadsorbed circulating HCl was analyzed as chloride ion using a modified Volhard method.

IT **75-45-6P**, R-22
RL: PUR (Purification or recovery); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(test method for inorg. acid removal capacity of **desiccants** in liq. line filter dryers)

L40 ANSWER 16 OF 64 HCA COPYRIGHT 2002 ACS

129:110996 Agent for cooling of hot gases. Modigell, Michael; Mackowiak, Hans-Peter (Dynamit Nobel G.m.b.H. Explosivstoff- und Systemtechnik, Germany). PCT Int. Appl. WO 9828041 A1 19980702, 15 pp. DESIGNATED STATES: W: IL, NO, US; RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (German). CODEN: PIXXD2. APPLICATION: WO 1997-EP7219 19971220. PRIORITY: DE 1996-19653370 19961220.

AB An agent for cooling of pyrotechnically produced aerosol-contg. hot gases (e.g., **fire-extinguishing** gas) is a water-loaded adsorbent (e.g., silica gel, silicic acid, **zeolite**). During contact with the hot gas, water is released, and the gas is cooled. Typically, 20 g H2O is necessary to cool 50 L aerosol-contg. gas from 1400 to 400.degree..

L40 ANSWER 17 OF 64 HCA COPYRIGHT 2002 ACS
129:83110 Refrigerator using alternatives for chlorofluorocarbons as coolants and coolant compressor. Egawa, Tatsuya; Yamazaki, Hirotaka; Mogami, Kenji; Nagao, Akira; Handa, Toyokazu; Kaneko, Masato (Idemitsu Kosan Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 10147682 A2 19980602 Heisei, 17 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1996-306621 19961118.
AB The app. has compressors, condensers, a means of expansion, and evaporators and uses hydrofluorocarbon-, fluorocarbon-, hydrocarbon-, ether-, CO2-, or NH3-based coolants and poly(vinyl ether)-based lubricant oils with dynamic viscosity 2-200 mm2/s at 40.degree.. A sealed refrigerant compressor comprising a compressor and a motor in one container with high or low inner pressure is also claimed. The poly(vinyl ether)-based lubricants show good compatibility to the coolants.
IT **75-10-5**, R 32 **354-33-6**, Pentafluoroethane
811-97-2, R 134a
RL: TEM (Technical or engineered material use); USES (Uses)
(coolant; refrigerators using chlorofluorocarbon coolant alternatives and compatible poly(vinyl ether) lubricants)

L40 ANSWER 18 OF 64 HCA COPYRIGHT 2002 ACS
128:258254 Photopolymerizable compositions and flame retardant adhesive tapes therefrom with high bonding strength. Tono, Masaki; Yahara, Kazuyuki; Azuma, Kenichi (Sekisui Chemical Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 10077308 A2 19980324 Heisei, 16 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1996-231854 19960902.
AB The tapes are obtained by coating substrates with the compns. contg. (1) 100 parts monomer mixts. comprising .gtoreq.1 50-98% C1-12 alkyl (meth)acrylates and 2-50% .gtoreq.1 polar group-contg. monomers, (2) 3-20 parts P-contg. monomers, (3) 0.01-5 parts photoinitiators, and (4) .gtoreq.1 filler selected from fibrous fillers [av. diam. (.vphi.) 0.2-20 .mu.m; av. length 5 .mu.m to 1 mm], porous particles (.vphi. 0.5-150 .mu.m), nonpolar resin particles (.vphi. 5-150 .mu.m), org. particles (.vphi. 5-100 .mu.m; Tg .gtoreq.90.degree.), flat particles (.vphi. 1-50 .mu.m; aspect ratio 20-40), **aluminosilicate**-based particles (.vphi. 1-150 .mu.m), smooth SiO2-based particles (.vphi. 10-150 .mu.m), surface-treated hydrophobic SiO2-based particles (.vphi. 10-150 .mu.m), and particles (.vphi. 5-150 .mu.m, refractive index 1.47-1.51), and irradiating them with light. Thus, 180 g Light Ester PA (acryloyloxy phosphate) and a UV-curable compn. (viscosity 2300 cP) comprising 2-ethylhexyl acrylate 900, acrylic acid 100, Irgacure 184 (initiator) 0.3, and Aid Plus SP (sepiolite-based fiber) 100 g were mixed together and applied on a PET release film, which was covered with another PET release film and irradiated with UV to give a tape showing shear strength (peeling rate 50 mm/min) 17.9 kg/cm2, T peeling strength (peeling rate 200 mm/min) 10.8 kg/20 mm, and a **fire** self-**extinguishing** rating (JIS D 1201).

L40 ANSWER 19 OF 64 HCA COPYRIGHT 2002 ACS
128:50408 Multipurpose **fire extinguishing** powder.
Zhartovskij, Vladimir Mikhajlov; Antonov, Anatoloj Vasilevich; Vlasenko, Stanislav Grigorevich (Maloe Nauchno-Proizvodstvennoe Predpriyatie Faktor, Ukraine). Russ. RU 2086279 C1 19970810 From: Izobreteniya 1997, (22), 211-212. (Russian). CODEN: RUXXE7. APPLICATION: RU 1995-114940 19950821. PRIORITY: UA 1995-52547 19950526.
AB Title only translated.

L40 ANSWER 20 OF 64 HCA COPYRIGHT 2002 ACS
127:52932 Mixed refrigerants containing fluoromethane and fluoroethane and cooling apparatus using them. Fukushima, Masato; Otoshi, Ogino (Asahi Glass Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 09151370 A2 19970610 Heisei, 9 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1995-312763 19951130.

AB Claimed refrigerants comprise 47-48 wt.% difluoromethane and 52-52 wt.% pentafluoroethane. Claimed cooling app. uses mixed refrigerants contg. difluoromethane and pentafluoroethane and **zeolite**-type **desiccants**. The refrigerants have good refrigeration performance and incombustibility and are suitable for substitutes of HCFC-22.

IT **75-10-5**, Difluoromethane **354-33-6**, Pentafluoroethane
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(cooling app. using mixed refrigerants contg. fluoromethane and fluoroethane for refrigeration performance and incombustibility)

L40 ANSWER 21 OF 64 HCA COPYRIGHT 2002 ACS
125:334081 "Chemical Heat Accumulators": A new approach to accumulating low potential heat. Levitskij, E. A.; Aristov, Yu. I.; Tokarev, M. M.; Parmon, V. N. (Boreskov Institute of Catalysis, Novosibirsk, 630090, Russia). Solar Energy Materials and Solar Cells, 44(3), 219-235 (English) 1996. CODEN: SEMCEQ. ISSN: 0927-0248. Publisher: Elsevier.

AB The first presentation of new composite chem. heat accumulation materials based on granulated open-porous matrix filled with a hygroscopic substance is given. At storing heat, the materials operate in a reversible hydration/dehydration mode. When cryst. hydrates of simple salts are used as the hygroscopic substance, the new materials allow to reach the heat storing capacity up to 2000 kJ kg-1 even for accumulation of low temp. heat (of 20-40.degree.). The materials also possess improved properties for mass and heat transfer. All these make a serious advantage of these materials in comparison with those using a latent melting-solidification heat as well as with **zeolites** capable of reversible hydration/dehydration. The new materials can be widely used in energy efficient and Freon-free air conditioning devices, for cooling the electronic units, **fire -extinguishing** and some other applications.

L40 ANSWER 22 OF 64 HCA COPYRIGHT 2002 ACS
125:279986 Cesium-exchanged **zeolite drying agents** for **drying** of difluoromethane refrigerant and others. Ogawa, Nobuhiro; Itabashi, Keiji (Tosoh Corp, Japan). Jpn. Kokai Tokkyo Koho JP 08206495 A2 19960813 Heisei, 7 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1995-17207 19950203.

AB The title **drying agents** contain metal cations, which include at least Cs ions, and binder(s). The substance(s) to be dried contain compd(s). composed of F, H and C, or F, H, Cl and C. Preferably, the compd(s). formed from F, H and C is difluoromethane (HFC32), or mixt(s). contg. at least HFC32.

IT **75-10-5**, Difluoromethane
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(refrigerant, **drying** of; cesium-exchanged **zeolite drying agents** for **drying** of difluoromethane refrigerant and others)

L40 ANSWER 23 OF 64 HCA COPYRIGHT 2002 ACS
125:252041 **Zeolite**-based **drying agents** and their applications. Ogawa, Nobuhiro; Itabashi, Keiji (Tosoh Corp, Japan). Jpn. Kokai Tokkyo Koho JP 08206494 A2 19960813 Heisei, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1995-17875 19950206.

AB The title **drying agents** contain **zeolites** of Si/Al at. ratio 2-10, and optionally binders. The **zeolites** may be partially or fully K- and/or Rb-exchanged. The agents are useful for drying hydrofluorocarbons, e.g., HFC32, HFC32-contg. refrigerants, etc.

IT **75-10-5**, HFC32
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(**drying** of; **zeolite**-based **drying agents** for)

L40 ANSWER 24 OF 64 HCA COPYRIGHT 2002 ACS
125:252040 **Zeolite**-based **drying agents** and their applications. Ogawa, Nobuhiro; Itabashi, Keiji (Tosoh Corp, Japan). Jpn. Kokai Tokkyo Koho JP 08206493 A2 19960813 Heisei, 7 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1995-15973 19950202.
AB The title **drying agents** contain P-type **zeolites** and/or HS-type **zeolites**, and optionally binders. The **zeolites** may be partially or fully K- and/or Rb-exchanged. The agents are useful for drying hydrofluorocarbons, e.g., HFC32, HFC32-contg. refrigerants, etc.
IT **75-10-5**, HFC32
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(**drying** of; **zeolite**-based **drying agents** for)

L40 ANSWER 25 OF 64 HCA COPYRIGHT 2002 ACS
125:171677 **Drying agents**, their preparation and utilization. Ogawa, Nobuhiro; Agawa, Masahiko; Tsuzuki, Kenji (Tosoh Corp, Japan). Jpn. Kokai Tokkyo Koho JP 08173799 A2 19960709 Heisei, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1995-29201 19950217. PRIORITY: JP 1994-265077 19941028.
AB **Drying agents**, as A-type **zeolites** contg. Na and K (as metal cations), satisfy the following conditions; (1) .gtoreq.0.5 wt.% satn. **moisture-adsorption** amt. at 25.degree. and humidity 80%, (2) satn. **moisture-adsorption** amt. at 60.degree. and humidity 80% higher than that atm. at 25.degree. and humidity 80%, (3) .ltoreq.0.1 wt.% satn. CO2-adsorption amt. at 25.degree. and CO2 partial pressure 250mmHg, (4) .ltoreq.0.015 wt.%/h initial CO2-adsorption rate at 75.degree. and CO2 partial pressure 400mmHg, (5) molding d. .gtoreq.1.4 g/cm3, and (6) pressure-resistance strength .gtoreq.5.0 kg and wear resistance <3.0%. The A-type **zeolites** contg. Na and K (optionally molded with clays) are heat treated at 600-750.degree. in water vapor atm. of moisture concn. .gtoreq.5 wt.% to give the **drying agents**. Before the heat treatment, the **zeolites** (molded with the clays) may be impregnated with alkali silicate solns. Coolants contg. difluoromethane (HFC32) are dried by the agents.
IT **75-10-5**, HFC32
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(prepn. of sodium- and potassium-contg. A-type **zeolite drying agents** for)

L40 ANSWER 26 OF 64 HCA COPYRIGHT 2002 ACS
124:188258 Neutron and Raman spectroscopies of 134 and 134a hydrofluorocarbons encaged in Na-X **zeolite**. Udovic, T. J.; Nicol, J. M.; Cavanagh, R. R.; Rush, J. J.; Crawford, M. K.; Grey, C. P.; Corbin, D. R. (National Institute Standards and Technology, Gaithersburg, MD, 20899, USA). Materials Research Society Symposium Proceedings, 376(Neutron Scattering in Materials Science II), 751-6 (English) 1995. CODEN: MRSPDH. ISSN: 0272-9172. Publisher: Materials Research Society.
AB Inelastic neutron scattering methods were used in conjunction with Raman spectroscopy to probe the vibrational d. of states of the hydrofluorocarbons (HFCs) 134 (HF2C-CF2H) and 134a (F3C-CFH2) adsorbed in the cages of **dehydrated** Na-X **zeolite**. A comparison of the vibrational spectra of the encaged HFC species with those of their gas-phase analogs indicates that the HFCs adsorb nondissociatively at room temp. and are most likely assocd. with Na cations in the supercages at the SIII sites. Guest-host interactions are manifested by adsorption-induced perturbations of the gas-phase torsional and C-H stretching vibrations and the presence of addnl. features presumably due to low-energy whole-mol. vibrations and adsorbate-coupled **zeolite** framework vibrations. Also, although the 134 trans conformer is favored by 5 kJ/mol in the gas

phase at 300 K, the gauche conformer seems to be more prevalent in the **zeolite** at this temp. and below. Probably a sizeable fraction of the Na-X adsorption sites provides a stabilizing configuration for the otherwise higher-energy gauche conformation, perhaps due to H-bonding interactions with the **zeolite** framework.

IT **811-97-2**, 1,1,1,2-Tetrafluoroethane
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(neutron and Raman spectroscopies of 134 and 134a hydrofluorocarbons encaged in Na-X **zeolite**)

L40 ANSWER 27 OF 64 HCA COPYRIGHT 2002 ACS
123:60725 Gas-generating agent for air bags, **fire extinguishers**, and propellants. Gast, Eduard; Semmler, Peter; Schmid, Bernhard (Contec - Chemieanlagen GmbH, Germany). Ger. Offen. DE 4435790 A1 19950413, 8 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1994-4435790 19941006. PRIORITY: DE 1993-4334099 19931006.

AB The agent consists of (1) .gtoreq.1 carbonate, bicarbonate, or nitrate of guanidine, aminoguanidine, diaminoguanidine, triaminoguanidine 20-55 (preferably 50-55), (2) .gtoreq.1 alkali metal, alk. earth metal, or NH4 nitrate oxidn. agent 45-80 (preferably 45-50), and (3) .gtoreq.1 SiO2, alkali metal silicate, alk. earth metal silicate, and/or **aluminosilicate** carrier and/or .gtoreq.1 O-supplying Fe2O3, Co oxide, MnO2, and/or CuO carrier for combustion moderation 5-45% (preferably 8-20%). Optionally, the propellant contains 0.1-5% (preferably 1.5-2.5%) cellulose compd. or polymer binder. The agent is suitable as a gas generator for air bags, propellants, and **fire extinguishers**.

L40 ANSWER 28 OF 64 HCA COPYRIGHT 2002 ACS
123:16344 **Zeolite**/water or R 134a for automobile air conditioning?. Gentner, Hariolf; Winter, Edgar R. F.; Hoeppler, Robert (Fachbereich Maschinenwes., Tech. Univ. Muenchen, Munich, Germany). Ki Luft- und Kaeltetechnik, 30(6), 288-93 (German) 1994. CODEN: KLKAE5. ISSN: 0945-0459.

AB Operating parameters of com. automobile air conditioning devices working with R 134a were investigated in a test bench and compared with results obtained with a newly developed adsorption air conditioning aggregate operating with **zeolite**/H2O (**zeolite** rotor). Mass and vol.-specific refrigerating performance of the **zeolite** rotor was 10% of a com. air conditioning system.

IT **811-97-2**, R 134a
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(automobile air conditioning with R 134a or **water absorption** by **zeolite** rotor system)

L40 ANSWER 29 OF 64 HCA COPYRIGHT 2002 ACS
122:269037 Compatibility and performance of **molecular sieve desiccants** with alternative refrigerants. Cohen, A. P. (UOP Molecular Sieves, Tarrytown, NY, 10591, USA). Science et Technique du Froid (2 CFCS, the Day After), 21-8 (English) 1994. CODEN: STFRD4. ISSN: 0151-1637.

AB This paper discusses the compatibility and performance testing of mol. sieve **desiccants** with alternative refrigerants and appropriate lubricants. The compatibility test method is described along with the results of tests with refrigerants 12, 22, 124, 125, 134a, 143a, and 152a. The equil. water capacities of com. mol. sieve **desiccants** of interest to the stationary refrigeration industry in liq. refrigerants 12, 22, 134a, 401c, and 32 are also presented as isotherms at 52.degree.. Drying rate was tested in a domestic refrigerator using R-134a and ester lubricant. The test data show that the fluids can be dried and the rate can be explained in terms of the test conditions.

IT **75-10-5**, r32 Refrigerant **75-45-6**, r22 **354-33-6**
, r125 **811-97-2**, r134a
RL: TEM (Technical or engineered material use); USES (Uses)
(compatibility and performance of mol. sieve **desiccants** with alternative refrigerants)

L40 ANSWER 30 OF 64 HCA COPYRIGHT 2002 ACS
121:283027 Heat storage material for warming or fireproofing. Levitsky, Emmanuil Aronovich; Parmon, Valentin Nikolaevich; Moroz, Ella Mikhailovna; Bogdanov, Sergei Vladimirovich; Bogdanchikova, Nina Evgenievna; Kovalenko, Olga Nikolaevna (Institut Kataliza Sibirskogo Otdelenia Rossiiskoi Akademii Nauk, Russia; Aktsionernoe Obschestvo Zakrytogo Tipa "EKOTERM"). Fr. Demande FR 2701958 A1 19940902, 29 pp. (French). CODEN: FRXXBL. APPLICATION: FR 1993-2000 19930222.
AB The material comprises a thermally inert porous matrix (e.g., silica gel) and an active thermosensitive hygroscopic substance capable of reversible dehydration-hydration (e.g., cryst. CaCl2.6H2O). Uses include heating and cooling of gases and fireproofing.

L40 ANSWER 31 OF 64 HCA COPYRIGHT 2002 ACS
121:183675 Heat storage material and its use. Levitskij, Emmanuil Aronovic; Parmon, Valentin Nikolaevic; Moroz, Ella Michailovna; Bogdanov, Sergej Vladimirovic; Bogdancikova, Nina Evgenievna; Kovalenko, Olga Nikolaevna (Institut Kataliza Sibirskogo Otdelenija, Russia; Akcionernoe Obscestvo Zakrytogo Tipa "Ekoterm"). Ger. Offen. DE 4305264 A1 19940825, 12 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1993-4305264 19930220.
AB The material comprises a matrix of porous inorg., polymeric, carbonaceous, or metallic material with open pores having diam. <100 nm and CaCl2.6H2O. The matrix is a **zeolite**. The heat storage material is used for temp. control of electronic elements and for **fire extinguishing** compns.

L40 ANSWER 32 OF 64 HCA COPYRIGHT 2002 ACS
121:160281 Novel **zeolite** sorbents for **drying** and cleaning of refrigerating-machine systems. Malkin, L. Sh.; Dmitrieva, G. G. (AO Servis Tekh. Okhlazhden., Russia). Kholodil'naya Tekhnika (6), 17-18 (Russian) 1993. CODEN: KHTEAU. ISSN: 0023-124X.
AB Sorption and strength properties and chem. stability are studied of zeolitic sorbents for drying and acid removal from R 12, R 22, R 502, and R 134a. The main properties of the sorbent are compared with the properties of com. sorbents.
IT **75-45-6P**, r 22 **811-97-2P**, r 134a
RL: PREP (Preparation)
(drying and purifn. of, sorbents for)

L40 ANSWER 33 OF 64 HCA COPYRIGHT 2002 ACS
121:90257 Adsorbent tube evaluation for the preconcentration of volatile organic compounds in air for analysis by gas chromatography-mass spectrometry. McCaffrey, Carol A.; MacLachlan, John; Brookes, Beverley I. (Department of Physical Sciences, Glasgow Caledonian University, Glasgow, G4 0BA, UK). Analyst (Cambridge, United Kingdom), 119(5), 897-902 (English) 1994. CODEN: ANALAO. ISSN: 0003-2654.
AB A comparison between different adsorbent materials has been carried out by generating a std. atm. The problems encountered during the anal. owing to **water adsorption** are discussed.
IT **75-45-6**, Chlorodifluoromethane
RL: ANST (Analytical study)
(sampling of, from air, adsorbent tube evaluation for)

L40 ANSWER 34 OF 64 HCA COPYRIGHT 2002 ACS
120:248746 **Fire-extinguishing** composition and method for its production. Levitskij, Vladimir A.; Shikhov, Boris A.; Trishevskaya, Tatyana G.; Bakumenko, Lyubov I.; Kushchuk, Vladimir A.; Vorozhbitov,

Anatolij D.; Bolodyan, Ivan A. (USSR). U.S.S.R. SU 1797923 A1 19930228 From: Izobreteniya 1993, (8), 24. (Russian). CODEN: URXXAF. APPLICATION: SU 1990-4853670 19900725.

AB To decrease the tendency to cake and the cost, the compn. contains powd. silica gel with sp. surface .gtoreq.100 m2/g as highly dispersed SiO2 1.0-4.0 and **aluminosilicate** 4.0-16.0, in addn. to waterproofing organosilicon liq. 0.2-1.0 wt.% and balance base component. The base component may be sylvinite or ammophos. The compn. is prepd. by heating powd. silica gel at 100-140.degree. until it contains 0.1-0.5 wt.% moisture, mixing it with an **aluminosilicate**, grinding to av. particle size 10-125 .mu.m, homogeneously mixing all components within 10 h, and activating the mixt. in an impact app. with energy intensity .gtoreq.10 V/kg.

L40 ANSWER 35 OF 64 HCA COPYRIGHT 2002 ACS

118:237090 Ignition of nitrocellulose in various atmospheres. Finnerty, Anthony E.; Bowers, Steven A.; Schroeder, Matthew O. (U.S. Army Ballistic Res. Lab., Aberdeen Proving Ground, MD, 21005-5066, USA). Proc. Int. Pyrotech. Semin., 18th, 279-98 (English) 1992. CODEN: PPYSD7. ISSN: 0270-1898.

AB Chem. analyses were performed to det. the nature and compn. of gases emitted by decompg. and burning nitrocellulose in the presence of various gases and powders. NO was the principal N-contg. product of combustion in inert atms. when heated by a nichrome ribbon. Some NO2 was formed when air was present. The amts. of CO and CO2 were also affected by the nature of the combustion atm. When nonreactive powders (i.e., 13X mol. sieve and Monnex and Purple K **fire extinguishers**) were layered on top of nitrocellulose, the compn. burned as if the added powders were not present. In contrast, when the powders were mixed with nitrocellulose prior to heating with the nichrome ribbon, combustion was reduced and could only be maintained by maintaining power to the ribbon.

IT **75-63-8**, Halon 1301
RL: PROC (Process)
(nitrocellulose combustion in presence of)

L40 ANSWER 36 OF 64 HCA COPYRIGHT 2002 ACS

117:29940 Fire-suppressing compositions and methods for protecting flammable surface against fire. Pope, Penny M.; O'Bannon, Sean; Pope, Steven R. (USA). U.S. US 5112533 A 19920512, 6 pp. (English). CODEN: USXXAM. APPLICATION: US 1990-467987 19900122.

AB An aq. soln. contg. 1 wt. part lignosulfonate obtained from spent liquor of the sulfite pulping process and 0.1-0.5 wt. parts carbonate of soda, e.g., Na2CO3 or NaHCO3, is used in fire suppressing. The compn. is applied to a flammable surface or a fire, and the surface is blanketed with CO2 which is released from the compn. when the compn. is heated by fire.

L40 ANSWER 37 OF 64 HCA COPYRIGHT 2002 ACS

116:155040 Extinguishing of hardly extinguishable burning materials. Yamaguchi, Hisayoshi (Shin-Etsu Handotai Co., Ltd., Japan). U.S. US 5082575 A 19920121, 7 pp. Cont.-in-part of U.S. Ser. No. 249,316, abandoned. (English). CODEN: USXXAM. APPLICATION: US 1990-497422 19900322. PRIORITY: US 1988-249316 19880926.

AB A SiO2-based porous powder (SiO2 >80 wt.%) or a SiO2-Al2O3-based porous powder (SiO2 + Al2O3 >90 wt.%) of a particle diam. from 5 .mu.m to 5 mm, an apparent d. 0.2-0.7 g/cm3, and a pore diam. 0.1-100 .mu.m is sprinkled over the burning site to extinguish fire on alkali metal peroxides, alkyl aluminum compds., diketone, CaC2, and Ca3P2. In the case of extinguishment of fire on burning alkali metal, the above powder mixed with alkali metal chloride of which the alkali metal element is the same as the burning alkali metal is used.

L40 ANSWER 38 OF 64 HCA COPYRIGHT 2002 ACS

116:154350 Refrigerators. Honma, Kichiji; Kawashima, Kenichi; Ota, Akira; Ito, Yutaka; Komatsuzaki, Shigeki; Kishi, Atsuo; Iizuka, Tadashi (Hitachi, Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 03281688 A2 19911212 Heisei, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1990-86656 19900330.

AB The refrigerators are equipped with a compressor having fluorohydrocarbons as refrigerants and synthetic aliph. lubricants, and the flow path of the working media is provided with NaF and **H2O-removing** agents to maintain F- concn. .ltoreq.2 ppm and H2O <200 ppm in the synthetic aliph. lubricants. CxHyFz (x = 1-3, y = 1-7, z = 1-7) with crit. temps. >40.degree., and polyalkylene glycol, neopentyl polyol esters, and/or polyether-modified siloxanes are used as the working media. Corrosion of the compressor bearings is prevented.

IT **811-97-2**, 1,1,1,2-Tetrafluoroethane
RL: USES (Uses)
(working medium contg. polyalkylene glycol and, for refrigerators)

L40 ANSWER 39 OF 64 HCA COPYRIGHT 2002 ACS

114:26793 Method for extinguishing a metal fire and **fire extinguishing** agent therefor. Yamaguchi, Hisayoshi (Shin-Etsu Handotai Co., Ltd., Japan). Eur. Pat. Appl. EP 395322 A1 19901031, 8 pp. DESIGNATED STATES: R: DE, FR, GB. (English). CODEN: EPXXDW. APPLICATION: EP 1990-304292 19900420. PRIORITY: JP 1989-108110 19890427.

AB A **fire extinguishing** agent which is stable for a long storage period without loss of flowability and ejectability from the extinguisher is a powdery blend of 70-95 wt.% high-purity B2O3 having <2 wt.% water content and a particle diam. 5-1000 .mu.m and 5-30 wt.% inorg. spherical particles such as glass beads having a particle diam. 5-200 .mu.m and **aluminosilicate** microspheres having a particle diam. 50-600 .mu.m. The agents are suitable for extinguishing a metal fire such as a burning Mg powder.

L40 ANSWER 40 OF 64 HCA COPYRIGHT 2002 ACS

112:182327 Stabilization of the properties of inhibiting compositions with natural mineral-based additives. Chesha, I. I.; Datsenko, D. F.; Adamenko, V. V.; Pisetskaya, L. V. (Kiev. Gos. Univ., Kiev, USSR). Khim. Tekhnol. (Kiev) (1), 38-42 (Russian) 1990. CODEN: KHMTA6. ISSN: 0368-556X.

AB Sulfanol-modified **zeolite** and acid-resistant andesite flour were used as anticaking and water-repelling additives for partial replacement of Aerosil in **fire-extinguishing** compns. of NaCl and CaCO3 (1:1). The content of expensive Aerosil was decreased to 0.5-0.75%.

L40 ANSWER 41 OF 64 HCA COPYRIGHT 2002 ACS

112:80526 Recombination of hydrogen atoms on the surface of some **zeolite**-containing rocks from the Georgian SSR. Katsitadze, M. M.; Dzotsenidze, Z. G.; Museridze, M. D.; Bezarashvili, G. S.; Kokochashvili, T. V. (Tbilis. Gos. Univ., Tbilisi, USSR). Soobshch. Akad. Nauk Gruz. SSR, 135(2), 357-9 (Russian) 1989. CODEN: SAKNAH. ISSN: 0002-3167.

AB The recombination of H atoms on the surface of **zeolites** was studied to evaluate their **fire-extinguishing** capacity. Tests were made in a quartz reactor (diam. 5 cm, length 13 cm) filled with H-O. The inner wall of the reactor was covered with a thin **zeolite** layer. **Laumontite, clinoptilolite,** and **heulandite** ensure high recombination coeffs. of at. H; hence these **zeolites** can be used as extinguishers of H-O fires.

L40 ANSWER 42 OF 64 HCA COPYRIGHT 2002 ACS

111:117827 Method for extinguishing chlorosilane fires. Yamaguchi, Hisayoshi; Yanagisawa, Tamotsu; Yabuzuka, Masao; Shimizu, Masakatsu; Tanaka, Takashi (Shin-Etsu Handotai Co., Ltd., Japan). Eur. Pat. Appl. EP 311006 A1 19890412, 9 pp. DESIGNATED STATES: R: DE, FR, GB. (English). CODEN: EPXXDW. APPLICATION: EP 1988-116389 19881004. PRIORITY: JP 1987-252211

19871006.

AB An efficient and reliable method for extinguishing chlorosilane fires comprises sprinkling with a porous inert SiO2 based or SiO2-Al2O3-based powder and spraying with an aq. soln. of NaCl, KCl, or CaCl2. The **fire-extinguishing** efficiency is further enhanced by using a binary blend contg. porous inorg. powders and silica sand of polyhedral configuration with particle diam. 1-200 .mu.m.

L40 ANSWER 43 OF 64 HCA COPYRIGHT 2002 ACS

111:25883 Method for extinguishing difficult to extinguish burning materials. Yamaguchi, Hisayoshi (Shin-Etsu Handotai Co., Ltd., Japan). Eur. Pat. Appl. EP 309881 A1 19890405, 11 pp. DESIGNATED STATES: R: DE, FR, GB. (English). CODEN: EPXXDW. APPLICATION: EP 1988-115453 19880921. PRIORITY: JP 1987-244828 19870929.

AB Fire on difficulty extinguishable materials, e.g. alkali metal peroxides, metallic powders such as Al, Mg, Zn, Na, and K, alkyl Al compds., and diketene, can be extinguished by sprinkling with a powder contg. either porous silica-based particles (>80 wt. % SiO2) or porous **silica-alumina**-based particles (>90 wt. % SiO2 + Al2O3). The powder has a pore diam. 0.1-100 .mu.m and a particle diam. 5 .mu.m-5 mm and a surface which is rendered hydrophobic by treating with an organosilane or an organopolysiloxane compd. Water and/or an extinguishing aid which is a Halon compd. in liq. form at room temp. can be sprayed on the fire subsequent to sprinkling with the powder. A smaller amt. of **fire extinguishing** agent and shorter **fire-extinguishable** time are needed compared to conventional dry sand.

L40 ANSWER 44 OF 64 HCA COPYRIGHT 2002 ACS

109:213243 Extinguishing of chlorosilane fire. Yamaguchi, Hisafuku; Yanagisawa, Tamotsu; Yabuzuka, Masao; Tanaka, Takashi; Shimizu, Masakatsu (Shin-Etsu Handotai Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 63186667 A2 19880802 Showa, 14 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1987-22110 19870202. PRIORITY: JP 1986-224329 19860922.

AB Burning chlorosilane is extinguished by spraying porous SiO2 or Al2O3-SiO2 powder of pore diam. 0.1-100 .mu.m and particle size 5 .mu.m-5 mm and optionally further spraying Halon or water. Thus, 50 mL SiHCl3 was ignited in a stainless steel container and porous SiO2 (pore-diam. 0.2-10 .mu.m, particle size 10-500 .mu.m) was sprayed to extinguish the fire. The amt. of porous SiO2 required was 33 g.

L40 ANSWER 45 OF 64 HCA COPYRIGHT 2002 ACS

106:122516 **Fire-extinguishing** powder composition. Atamanenko, M. E.; Antonov, A. V.; Vaisman, M. N.; Zhartovskii, V. M.; Rodin, V. I.; Shikhov, B. A. (USSR). U.S.S.R. SU 1271531 A1 19861123 From: Otkrytiya, Izobret. 1986, (43), 33. (Russian). CODEN: URXXAF. APPLICATION: SU 1985-3838044 19850107.

AB The **fire-extinguishing** powder compn. contg. K fluorosilicate as inorg. salt and an additive for flow has increased **fire-extinguishing** capacity, decreased moisture absorption and caking, and reduced manufg. cost. The compn. contains 95.0-99.7 K fluorosilicate and 0.3-5.0 wt.% flow additive which may consist of finely divided substances: Si oxide, modified Si oxide, graphite, mica, or **zeolites**.

L40 ANSWER 46 OF 64 HCA COPYRIGHT 2002 ACS

105:85710 Adsorption of liquid on a microporous adsorbent along the line of liquid/vapor equilibrium. 2. Mean density of adsorbed substances in microporous adsorbent. Seliverstova, I. I.; Fomkin, A. A.; Serpinskii, V. V. (Inst. Fiz. Khim., Moscow, USSR). Izv. Akad. Nauk SSSR, Ser. Khim. (6), 1231-6 (Russian) 1986. CODEN: IASKA6. ISSN: 0002-3353.

AB In **adsorption** of **H2O** on **zeolite** NaA, of EtOH on NaX at 260-470 K, of Ar, Kr, and Xe on NaX, of CO2 on NaX, and of CF3H on NaX, the d. of adsorbate is different than the d. of the equil. liq.

phase and exhibits a different temp. dependence than the latter. For the nonpolar adsorbates, these exists a temp. (T) at which the d. of the adsorbate and the d. of the liq. phase are equal. It can be calcd. by the equation .tau. = T/Tcrit, where .tau. = 0.88 .+-. 0.09.

IT **75-46-7**
RL: PRP (Properties)
(d. of adsorbed, on microporous **zeolite**)

L40 ANSWER 47 OF 64 HCA COPYRIGHT 2002 ACS
101:133398 Stabilization of aqueous surfactant foams. Wolf, Friedrich; Bergk, Karl Heinz; Kretzschmar, Axel (Ger. Dem. Rep.). Ger. (East) DD 208919 A1 19840418, 8 pp. (German). CODEN: GEXXA8. APPLICATION: DD 1982-237081 19820201.

AB Aq. anionic surfactant foams for **fire extinguishing** and absorption of toxic substances are stabilized with **aluminosilicates** (particle size 0-10 .mu.) contg. 60-90% **zeolite** A. The surfactant/**aluminosilicate** wt. ratio is (3-6):1. Thus, the foam stability (detd. as the time required for the sepn. of 50% of the foaming agent soln. from the foam) of a 5% aq. soln. of a fatty alc. ether sulfate and protein fatty acid was increased by the addn. of 0.5% of an **aluminosilicate** contg. 86% **zeolite** A, with av. particle size 8 M, ion-exchange capacity 129 mg CaO/g, and H2O adsorption capacity 20.54%.

L40 ANSWER 48 OF 64 HCA COPYRIGHT 2002 ACS
100:159073 Ammonium phosphate compositions suitable for granular **fire extinguishers**. (Mitsui Toatsu Chemicals, Inc., Japan). Jpn. Kokai Tokkyo Koho JP 58221963 A2 19831223 Showa, 4 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1982-104003 19820618.

AB NH4 phosphate made from wet-process H3PO4 is mixed with inorg. ion-exchanging materials or cationic or amphoteric resins and used for **fire extinguishers**. Thus, 5000 kg of a crude wet-process H3PO4 soln. contg. P2O5 30% and Cd 5 and Pb 0.2 ppm was treated with gaseous NH3 to adjust the pH to 4.5-5.0, mixed with 150 kg synthetic **zeolite**, and dried to give granular NH4 phosphate. When 50 g of the NH4 phosphate was mixed with 500 mL pure water, stirred at 200 rpm for 6 h, and filtered, the water contained Cd 0.15 and Pb <0.2 mg/L; thus, the NH4 phosphate can be used for **fire extinguishers** without causing any problems.

L40 ANSWER 49 OF 64 HCA COPYRIGHT 2002 ACS
99:125028 **Fire extinguishers** for metal fires. (Asahi Asbestos Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 58069584 A2 19830425 Showa, 3 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1981-168331 19811021.

AB **Fire extinguishers** for metal fires are prepd. by mixing dried Al2O3 powder with dried SiO2. Thus, a mixt. contg. .alpha.-Al2O3 powder 100, SiO2 powder 20, and Mg stearate [557-04-0] 1 part was sprayed on a Na flame to extinguish it within a short period.

L40 ANSWER 50 OF 64 HCA COPYRIGHT 2002 ACS
99:107614 **Fire extinguishing** powder composition. Ovcharenko, F. D.; Nadubov, V. A.; Kachanovskaya, L. D.; Suyunova, Z. E.; Vdovenko, N. V.; Demidenko, A. G.; Kanibolotskii, V. A. (Institute of Colloidal and Water Chemistry, Academy of Sciences, Ukrainian S.S.R., USSR; All-Union Scientific-Research Institute of Fire Prevention, Kiev). U.S.S.R. SU 1018652 A1 19830523 From: Otkrytiya, Izobret., Prom. Obraztsy, Tovarnye Znaki 1983, (19), 14. (Russian). CODEN: URXXAF. APPLICATION: SU 1980-2983007 19800708.

AB A **fire-extinguishing** compn. is prepd. by mixing urea [57-13-6] with alkali metal carbonate, dissolving the mixt. in water in the presence of an inorg. additive, and then heat-treating it. The water absorption and caking tendency of the powder are reduced, its usefulness

in extinguishing burning liqs. contg. solid particles is ensured, and the manufg. technol. is simplified by using as inorg. additive a mixt. of an **aluminosilicate**, an inorg. polymer of formula (MPO3)n (M is K or Na and n is 1-200), and a surfactant. The mixt. of urea and carbonate is in the ratio 0.5:5 to 5:0.5. Salts of C8-24 quaternary ammonium compds. can be used as surfactants. The heat treatment is carried out 1st at 180-270.degree. and then at 105-180.degree., and the **aluminosilicate** can be bentonite, phlogopite, vermiculite, or opal-cristobalite.

L40 ANSWER 51 OF 64 HCA COPYRIGHT 2002 ACS
93:175750 Compressing gaseous materials in a contained volume. Torobin, Leonard B. (USA). PCT Int. Appl. WO 8000439 19800320, 100 pp. (English). CODEN: PIXXD2. APPLICATION: WO 1979-US651 19790824.
AB Gases, esp. inertial fusion target type, are compressed in glass microspheres by blowing the gases at the inner surface of molten glass formed across an orifice and then subjecting the formed microspheres to an external pulsating pressure field having periodic oscillations.

L40 ANSWER 52 OF 64 HCA COPYRIGHT 2002 ACS
93:79329 Treatment of aged protein-based **fire extinguisher** . Katayama, Naoyuki; Watanabe, Makoto; Wachi, Motohiko (Daiichi Kasei Sangyo K. K., Japan). Jpn. Kokai Tokkyo Koho JP 55028764 19800229 Showa, 3 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1978-103011 19780824.
AB Aged protein-based **fire extinguisher** compns. contg. hydrolyzed protein are coagulated with .gtoreq.1 coagulants, and the coagulated matter is sepd. and solidified. The coagulants are Al2(SO4)3, alum, MgSO4, or lime. Optionally, kieselguhr, perlite, or **zeolite** is added as an aid. Thus, 100 parts 10 yr-old **fire extinguisher** compn. was mixed with 10 parts of Al2(SO4)3, stirred, and the coagulated matter was sepd. and dried.

L40 ANSWER 53 OF 64 HCA COPYRIGHT 2002 ACS
92:169873 **Adsorption** of **water** and organic acids from oil-Freon mixtures by **clinoptilolites**. Malkin, L. Sh.; Pavliashvili, V. M.; Tsitsishvili, G. V.; Andronikashvili, T. G. (Leningr. Spets. Komb. Kholodil. Obrud., Leningrad, USSR). Prir. Tseolity, Tr. Sov.-Bolg. Simp. Issled. Fiz.-Khim. Svoistv Prir. Tseolitov, Meeting Date 1976, 315-20. Editor(s): Brouchek, F. I. Izd. Metsniereba: Tiflis, USSR. (Russian) 1979. CODEN: 42YTA7.
AB The equil. **adsorption** of **H2O** and oleic acid, which are obsd. in com. refrigeration liqs., on various Soviet-deposits natural and modified (by binder and NaA) **clinoptilolites** from oil-Freon 22 (or Khladon 12) mixts. was studied and the results compared with the adsorption on synthetic **zeolites**. The modified **clinoptilolites** are prospective sorbents for refrigeration mixts. purifn.
IT **75-45-6P**
RL: PREP (Preparation)
(purifn. of oil mixt. with, from oleic acid and **water**, **adsorption** on **clinoptilolites**)

L40 ANSWER 54 OF 64 HCA COPYRIGHT 2002 ACS
90:124101 Flame-quenching powder mixtures. (Elzett Muvek, Hung.; Magyar Nephadsereg Haditechnikai Intezet). Ger. Offen. DE 2814033 19781019, 19 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1978-2814033 19780331.
AB **Fire-extinguishing** powders are made by spraying particles of Al2O3, **zeolite**, perlite, bentonite, or asbestos with large sp. surfaces with the product of a reaction between reactive amino or imino compd.(s) and alkali metal bicarbonates or carbonates in the presence of NH4HCO3 or (NH4)2CO3. The mol. ratio of org. to reactive carbonate is 0.7-1.2:1.2. The spray is dried 5-25 s in a dryer at an entry temp. of 200-500.degree. and an exit temp. of 100-180.degree.. Fine

catalysts can be added to the reactants.

L40 ANSWER 55 OF 64 HCA COPYRIGHT 2002 ACS
90:39699 Fine-grained concentrate of solid foaming **fire-extinguishing** additives for plastics, lacquers, paints, coatings, etc. Wesch, Ludwig; Fradera Pellicer, Carlos (Spain). Span. ES 459495 19780416, 15 pp. (Spanish). CODEN: SPXXAD. APPLICATION: ES 1977-459495 19770604.

AB Fireproofing agent concs. for use in plastics and coatings are prepd. by grinding a mixt. of such agents to <5 .mu., coating the particles with a polymer compatible with or identical to the polymer in which they are to be incorporated, drying, forming the compn. into a sheet at <200.degree., and regrinding to <50 .mu. particle size. The coating with polymer, drying, sheet formation, and regrinding may be repeated through several cycles with the same or different polymers. Thus, a mixt. of NH4H2PO4 100, pentaerythritol [115-77-5] 50, powd. melamine-formaldehyde resin [9003-08-1] 30, and phenyl chlorophosphate [770-12-7] 5 g was milled for 12 h, treated with a 50% soln. of chlorinated rubber in benzene, dried under vacuum, and ball milled to give a powder with max. particle size 50 .mu. (particle size distribution max. at 10 .mu.). The powder was mixed with 30% p-cresol-dimethylurea copolymer [68863-81-0], dried at .apprx.150.degree., milled again, and this sequence was repeated to give a powder which was added to an alkyd resin paint. Wood painted with this compn. showed better fire resistance (DIN 4102) than wood painted with a similar compn. in which the additives had been incorporated individually.

L40 ANSWER 56 OF 64 HCA COPYRIGHT 2002 ACS
85:194753 Solubility of Freons in water. Filatkin, V. N.; Plotnikov, V. T.; Alishev, A. G. (Leningr. Tekhnol. Inst. Kholod. Prom., Leningrad, USSR). Kholod. Tekh. (2), 23-5 (Russian) 1976. CODEN: KHTEAU.

AB The soly. of Freons 12, 12B1, 114, 115, C-318 at 3.7-38.degree. and (1-5).times.105 Pa in a thermostatically controlled app., consisting of a satn. unit, contg. a Raschig ring-filled column and hermetic pump for recirculation of satd. Freon soln., and a filling tank. Apart from temp. and pressure measuring devices, the concn. of Freon was detd. by the method, consisting of desorption of Freon by gaseous stream, **adsorption** of **water** from the mixt. by NaX **zeolite**, and chromatog. detn. of Freon with detection by thermal cond. and flame ionization. Freon-12 was the most sol. in water, and Freon-115 the least sol. The results are correlated by ln(s/l) = A + B (1/.theta.) + C(1/.theta.)2 where s is the wt.% of concn., l and .theta. the reduced pressure and temp., resp., and A, B, and C are consts.

IT **115-25-3**
RL: PRP (Properties)
(soly. of, in water)

L40 ANSWER 57 OF 64 HCA COPYRIGHT 2002 ACS
83:205772 Alumina-**zeolite** composite adsorbents for refrigerants. Chi, Donald G.; Lee, Hanju (Grace, W. R., and Co., USA). U.S. US 3899310 19750812, 4 pp. (English). CODEN: USXXAM. APPLICATION: US 1974-452718 19740320.

AB An approx. 50:50 wt.% alumina-**zeolite** composite adsorbed 30 mg oleic acid/g from its soln. in CHClF2, compared to 9 and 21 mg/g, resp., by **zeolite** 4A and an activated alumina used alone. The composite was prepd. by **dry**-blending **zeolite** 4A powder with KA30D alumina powder, adding H2O to form a paste, molding 4-8 mesh balls from the paste, curing and drying at 100-10.degree. for >60 hr, then activating by heating 2 hr at 370.degree..

IT **75-45-6P**
RL: PREP (Preparation)
(oleic acid removal from, by adsorption on alumina-**zeolite** composite)

L40 ANSWER 58 OF 64 HCA COPYRIGHT 2002 ACS
79:81180 Regeneration of synthetic **zeolites** during oil **drying**. Malkin, L. Sh.; Kolin, V. L.; Samoilenko, V. I. (Leningr. Spets. Komb. Kholod. Oborudovaniya, Leningrad, USSR). Neftepererab. Neftekhim. (Moscow) (5), 24-6 (Russian) 1973. CODEN: NNNSAF.
AB The scheme, which was satisfactorily used on an industrial scale, consisted in removing the oil from the used **zeolite** by washing with refrigerant Freon 12 or 22, in the liq. phase, and subsequent thermal regeneration of the **zeolite** in a stream of **dry** air for 2 hr. at temp. 400-450.degree..
IT **75-45-6**
RL: USES (Uses)
(in **molecular sieve** regeneration)

L40 ANSWER 59 OF 64 HCA COPYRIGHT 2002 ACS
77:64258 Drying mineral and synthetic oils by type A **zeolites**. Malkin, L. Sh.; Kolin, V. L.; Kel'tsev, N. V.; Samoilenko, V. I. (USSR). Adsorbenty, Ikh Poluch., Svoistva Primen., Tr. Vses. Soveshch. Adsorbentam, 3rd, Meeting Date 1969, 232-6. Editor(s): Dubinin, M. M. "Nauka", Leningrad. Otd.: Leningrad, USSR. (Russian) 1971. CODEN: 25CSAT.
AB Exptl. data on drying KhF-12-18 (I) and KhF-22S-16 (II) mineral oils and Freon 12 and 22 on the KA and NaA **zeolites** with binders, on a NaA **zeolite** without binder, and on a NaA Linde **zeolite** are shown graphically as adsorption isotherms and curves of the dependence of the relative exit H2O content of the oils on adsorption time under different conditions and the characteristics of a com. plant are tabulated. The H2O soly. in the oils at 20.degree.C was 7 .times. 10-3 and 0.5% by wt. for I and II, resp. The **H2O-adsorption** conditions were a 50-1200 mm high **zeolite** bed of 20-50 mm diam., oil stream flow rate 1-5 mm/sec, and 20-100.degree.. Some expts. were continued until the H2O content reached 0.0008 and 0.006% by wt. for I and II, resp. Equations give the mass exchange during drying and the time of the protective action of the bed. The arithemtical av. deviations of the calcd. data from the exptl. ones were .+-.14.4 and .+-.5%, resp., for these equations. The activity of the NaA **zeolite** without a binder decreased after 2-3 cycles of drying Freons 12 and 22 from 21 to 18%, remaining const. during further cycles.
IT **75-45-6P**
RL: PREP (Preparation)
(**drying** of, by **zeolites**)

L40 ANSWER 60 OF 64 HCA COPYRIGHT 2002 ACS
74:77903 Hardened **zeolite**-clay agglomerates. Conde, Robert M.; Drost, Wilfred (Union Carbide Corp.). Ger. Offen. DE 2036310 19710211, 20 pp. (German). CODEN: GWXXBX. PRIORITY: US 19690724.
AB Abrasionproof globular title agglomerates useful for drying halogenated hydrocarbon refrigerants were prepd. by rolling a mixt. contg. anhyd. cryst. **zeolite** 3A 80, anhyd. attapulgite clay 20, and water 21 parts in a rotating cylinder, adding 2% boehmite (44 .mu. particle size) preheated 1 hr at 300.degree., and impregnating the coated beads 6 hr in 2.9% K silicate. Drying with warm air and calcining 30 min at 625.degree. gave beads which lost 0.8% of their wt. by wet abrasion in Cl2C:CHCl refrigerant test and had a value of 74 in degassing test.
IT **75-45-6**
RL: USES (Uses)
(**drying agents** for, attapulgite-**molecular sieve**)

L40 ANSWER 61 OF 64 HCA COPYRIGHT 2002 ACS
70:79662 **Fire extinguishing** powder based on ammonium dihydrogen phosphate. (Solvay et Cie.). Fr. FR 1510555 19680119, 5 pp. (French). CODEN: FRXXAK. PRIORITY: BE 19670120.
AB **Fire-extinguishing** powder based on NH4H2PO4 is

described. The powder contains 92.5-97% NH4H2PO4 (particle size 10-20 .mu.); 2-5% finely divided SiO2 (particle size 0.1 .mu.); 0.2-1% silicone oil; and 0.7-1.5% of an insol. salt of stearic acid, usually Ca stearate. With some variations of formulation, small amts. of Na **aluminosilicate** or Ca silicate were added. The product is claimed to be superior to powders described in U.S. 3,172,852, U.S. 3,214,372, and Ger. 1,138,641 in resistance to humidity during storage and in ease of pouring.

L40 ANSWER 62 OF 64 HCA COPYRIGHT 2002 ACS

70:21360 Removing dissolved wax from refrigerants. Wischmeyer, William F.; Hoffman, John E. (Sporlan Valve Co.). U.S. US 3407617 19681029, 3 pp. (English). CODEN: USXXAM. APPLICATION: US 1966-599325 19661205.

AB The invention relates to an adsorbent for removing dissolved wax and acid from fluids and particularly from refrigerants in refrigeration and air-conditioning systems. The process for removing dissolved wax, acid, and moisture from CHClF2 and Refrigerant 502 in low-temp. refrigeration systems comprises locating an adsorbent in the flow path of the refrigerant. The adsorbent is a porous core comprising 10-56 activated charcoal, 5-31 cryst. **zeolite** mol. sieve, 39-93% activated alumina and an inert H2O-insol. binder. The charcoal removes the wax and acid, leaving oil in the refrigerant, and the **zeolite** and alumina **remove** acid and **moisture**.

IT **75-45-6P**

RL: PUR (Purification or recovery); PREP (Preparation)
(purification of, by adsorption)

L40 ANSWER 63 OF 64 HCA COPYRIGHT 2002 ACS

58:13309 Original Reference No. 58:2180e-g Dry chemical **fire extinguishers**. Warnock, William R.; Lindlof, James A.; Hemminger, Rodney L. (Ansul Chemical Co.). US 3055435 19620925, 3 pp. (Unavailable). APPLICATION: US 19590206.

AB A dry chem. **fire extinguisher** is described which contains such a large amt. of expellant gas that some gas can escape or leak without impairing its fire fighting capabilities, and its suitability for use can be detd. by weighing. Thus, a 72 cu. in. capacity extinguisher was filled with 1135 g. NaHCO3 plus additives and pressurized with CO2. For proper operations 30-5 g. CO2 are required. When 19 g. CO2 was added, the pressure was 200 lb./sq. in.; 30 g. CO2 raised the pressure to 300 and 35 g. to 350 lb./sq. in. When the extinguisher was filled with NaHCO3 modified with the addn. of 10% silica gel as adsorbent, 20 g. CO2 showed a pressure of 75 and 200 lb./sq. in. after 38 g. CO2 was added. Other gases can be used providing the adsorbing agent will adsorb the propellant, and there is equal effectiveness when the gas comprises more than one compd. Other suitable adsorbents are: activated charcoal, attapulgus clay, synthetic **zeolites**, activated alumina, and cracking catalysts used in petroleum refining contg. Si and various proportions of alumina.

L40 ANSWER 64 OF 64 HCA COPYRIGHT 2002 ACS

52:79859 Original Reference No. 52:14173a,14174a **Fire-extinguishing** compound. Ichioka, Kensuke (Asahi Glass Co.). JP 32004249 19570626 Showa (Unavailable). APPLICATION: JP .

AB By addn. of a small amt. of powd. **zeolite** to a foaming compd., the stability and fineness of the foams are increased. For example, a combination of 700 g. of an aq. Al2(SO4)3 soln. and a mixt. of NaHCO3 630, powd. gelatin 56, borax 12, turpentine 1.5, and powd. **zeolite** (<200-mesh) 0.8 g. is used.

09669478_CLS
Most Frequently Occurring Classifications of Patents Returned
From A Search of 09669478 on January 16, 2002

Original Classifications
2 137/526
2 236/92B

Cross-Reference Classifications
2 134/168C
2 134/36
2 137/516.15
2 137/533.27
2 376/293

Combined Classifications
3 236/92B
2 62/225
2 134/167C
2 134/168C
2 134/24
2 134/36
2 137/516.15
2 137/526
2 137/533.27
2 137/624.11
2 376/283
2 376/293
2 376/298

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File   2:INSPEC 1969-2002/Jan W2
File   6:NTIS 1964-2002/Feb W1
File   8:Ei Compendex(R) 1970-2002/Jan W2
File  14:Mechanical Engineering Abs 1973-2002/Jan
File  19:Chem.Industry Notes 1974-2002/ISS 200203
File  28:Oceanic Abst. 1964-2001/Nov
File  29:Meteor.& Geoastro.Abs. 1970-2001/Dec
File  34:SciSearch(R) Cited Ref Sci 1990-2002/Jan W3
File  44:Aquatic Sci&Fish Abs 1978-2002/Jan
File  62:SPIN(R) 1975-2002/Dec W5
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File  96:FLUIDEX 1972-2002/Jan
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File 144:Pascal 1973-2002/Jan W2
File 238:Abs. in New Tech & Eng. 1981-2002/Jan
File 266:FEDRIP 2001/Nov
File 295:World Transl.Index 1979-1997/Dec
File 305:Analytical Abstracts 1980-2002/Jan W2
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
Set     Items   Description
S1     143007   STORM OR STORMS
S2    1469025   DECAY??? OR DECOMPOS? OR CHEMICAL()WEATHERING
S3     750804   EQUILIBRIUM OR EQUALIZ? OR EQUALIS?
S4     638311   MOVE?? OR MOVING
S5      82788   (HIGH AND LOW)()PRESSURE
S6    2892824   GAS
S7    1905834   AIR  (January 1969)
S8     235166   WEATHER
S9    1465960   DECAY??? OR DECOMPOS?
S10        76   S8(3N)S9
S11      3220   CHEMICAL()WEATHERING
S12     12730   HIGH()PRESSURE AND LOW()PRESSURE
S13      1362   S8(S)S9
S14       199   S1 AND (S13 OR S11)
S15         0   S12 AND S14
S16         2   S3 AND S14
S17         2   RD (unique items)
S18        85   S14/TI,DE
S19         0   S5 AND S14
S20   2427086   PRESSURE  (January 1969)
S21        28   S20 AND S14
S22        28   S21 NOT S16
S23        17   RD (unique items)
S24        70   S18 NOT (S16 OR S21)
S25        51   RD (unique items)

 17/6,K/2     (Item 1 from file: 103)
DIALOG(R)File 103:(c) 2001 Contains copyrighted material. All rts. reserv.
02979532   INS-91-000608; EDB-91-013156
Title: A global model of thunderstorm electricity and the prediction of
    whistler duct formation
Publication Date: 1989
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...Abstract: global electrical circuit. **The model includes** a hemisphere in which the thunderstorm is located, **an equalization layer**, and a passive magnetic conjugate hemisphere. To maintain the fair weather electric field, the output current from the thunderstorm is allowed to spread out in the...
...lines into the conjugate hemisphere. The vertical current is constant up to approximately 65 km, decays and is redirected horizontally in the ionosphere. Approximately half of the current that reaches the...
...hemisphere while the rest is spread out in the ionosphere and redirected to the fair weather portion of the storm hemisphere. Our results show that it is important to include a realistic model of the equalization layer to evaluate the role of thunderstorm charging of the global circuit. The mapping of...

25/7/7 (Item 7 from file: 2)
DIALOG(R)File 2:INSPEC
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5861765 INSPEC Abstract Number: A9808-9260-108
Title: On the maintenance of potential vorticity in isentropic coordinates
Author(s): Edouard, S.; Vautard, R.; Brunet, G.
Author Affiliation: Lab. de Meteorol. Dynamique, Paris VI Univ., France
Journal: Quarterly Journal of the Royal Meteorological Society vol.123, no.543 p.2069-94
Publisher: R. Meteorol. Soc,
Publication Date: Oct. 1997 Country of Publication: UK
CODEN: QJRMAM ISSN: 0035-9009
SICI: 0035-9009(199710)123:543L.2069:MPVI;1-9
Material Identity Number: Q003-97007
Language: English Document Type: Journal Paper (JP)
Treatment: Theoretical (T)
Abstract: We present a diagnostic study of the maintenance of the potential vorticity (PV) on isentropic surfaces, in the troposphere to the lower stratosphere, using ten years of analyses produced by the European Centre for Medium-Range Weather Forecasts. After a brief three-dimensional description of the general circulation in isentropic coordinates, we examine the budgets of the PV evolution equation. By decomposing the flow into its mean, high-frequency transient and low frequency transient parts, we assess the role of these various scales of motion in the maintenance of the mean PV distribution. The contribution of vortical and thickness fluxes is also investigated. One interesting result is the key role of the divergent part of the transient flow along the tropopause in the midlatitudes, which creates a large PV sink region. We give here a tentative explanation. The PV maps are also used to generate a climatology of a wave activity called pseudomomentum, that indicates four centres of wave activity over the Atlantic and Pacific. The first two are located in the northern hemisphere storm tracks and the two others in the upper tropospheric subtropical areas between the 310 K and the 350 K levels. (43 Refs)
Subfile: A

25/7/34 (Item 1 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

09819653 Genuine Article#: 454GR Number of References: 41
Chemical weathering and runoff chemistry in a steep headwater catchment
Author(s): Anderson SP (REPRINT) ; Dietrich WE

Corporate Source: Univ Calif Santa Cruz,Dept Earth Sci, Inst Tecton,Santa Cruz//CA/95064 (REPRINT); Univ Calif Santa Cruz,Dept Earth Sci, Inst Tecton,Santa Cruz//CA/95064; Univ Calif Berkeley,Dept Earth & Planetary Sci,Berkeley//CA/94720
Journal: HYDROLOGICAL PROCESSES, 2001, V15, N10 (JUL), P1791-1815
ISSN: 0885-6087 Publication date: 20010700
Publisher: JOHN WILEY & SONS LTD, BAFFINS LANE CHICHESTER, W SUSSEX PO19 1UD, ENGLAND
Language: English Document Type: ARTICLE
Abstract: We present here deductions about the location, rate, and mechanisms of chemical weathering in a small catchment based on a catchment-scale sprinkling experiment. In this experiment demineralized water was applied at an approximately steady rate in the CB1 catchment in the Oregon Coast Range to reach and maintain a quasi-steady discharge for a period of 4 days. Because of nearly steady flow conditions within the catchment, the contribution to solute fluxes from soil and bedrock could be partitioned. One half of the solute flux from the catchment derived from colluvial soil, and one half from weathering in bedrock. This implies more intense weathering in the thin colluvium mantling the catchment than in the thick underlying weathered bedrock. The annual solute flux from the catchment, scaled to the annual runoff from the catchment is 32 +/- 10 t km(-2) year(-1), equivalent to published chemical denudation rates for nearby rivers with drainage areas 10(6) times greater than the experiment site. Soil waters sampled during the sprinkling experiment had steady compositions following a period of transient water flow conditions, implying steady-state chemical evolution in the soil. The waters leached 'organic' anions from shallow depths in the soil, which solubilized aluminium and iron, indicating that podzolization is occurring in these soils. Carbonate dissolution appears to be an important source of solutes from the bedrock, despite being present as only a minor phase in the rock. Water balance suggests that the residence time of water in the catchment is about 2 months, and that typical 24 h storms displace only a fraction of the stored water. A consequence is that runoff chemistry is dominated by old water, which imposes strong limits on the variability of runoff composition. Copyright (C) 2001 John Wiley & Sons, Ltd.

25/7/35 (Item 2 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

06964493 Genuine Article#: 109AM Number of References: 32
Title: Poleward deflection of storm tracks
Author(s): Orlanski I (REPRINT)
Corporate Source: PRINCETON UNIV,NOAA, GEOPHYS FLUID DYNAM LAB, POB 308/PRINCETON//NJ/08542 (REPRINT)
Journal: JOURNAL OF THE ATMOSPHERIC SCIENCES, 1998, V55, N16 (AUG 15), P 2577-2602
ISSN: 0022-4928 Publication date: 19980815
Publisher: AMER METEOROLOGICAL SOC, 45 BEACON ST, BOSTON, MA 02108-3693
Language: English Document Type: ARTICLE
Abstract: An analysis of 11 years of European Centre for Medium-Range Weather Forecasts data focuses primarily on the vertically averaged high-frequency transients. The conclusions are discussed in the context of (a) the winter storm track, (b) monthly variability, and (c) interannual variability. (a) Winter storm track: Results show that the pattern of the forcing by the high-frequency eddies along the storm

track is highly correlated with the stationary circulation, and the forcing itself is primarily responsible for the location of the trough-ridge system associated with the stationary flow. The results also clarify the role of wind component covariance terms <(u'v')over bar> and (<(v'(2))over bar> - <(u'(2))over bar>) in the column-averaged vorticity forcing. The simpler term u'v' has the well-known effect of intensifying the anticyclonic (cyclonic) tendencies on the southern (northern) side of the jet, thereby producing an increase in the barotropic component of the zonal jet. The (<(v'(2))over bar> - <(u'(2))over bar>) term displays a quadrupole pattern, which is also approximately in phase with the trough-ridge system associated with the stationary how. (b) Monthly variability: Eddy activity has been shown to possess a seasonal life cycle, increasing during the early fall and reaching a maximum around the month of November, then decaying for most of the winter months. Month-to-month variations in eddy activity over the Pacific Ocean show that energy levels increase up through November, decreasing thereafter at the same time the trough-ridge circulation pattern is intensifying. By December, baroclinicity in the western Pacific has increased substantially, and low-level eddies are found to break by the middle of the ocean. Upper-level eddies start to break well before reaching the west coast of North America, resulting in a displacement of the maximum in (<(v'(2))over bar> - <(u'(2))over bar>) westward from its November position and increasing the trough-ridge forcing by the high-frequency eddies. (c) Interannual variability: Wintertime eddy kinetic energy is seen to extend further eastward through the Pacific Ocean during the warm phase but displays. an abrupt termination during the cold phase. Anomalies in the eddy transient forcing tend to be quite similar to that of the Pacific-North American pattern itself. The extension of the storm track during the warm phase resembles that of fall conditions and is present in the winter season because the source of low-level baroclinicity is extended well into the eastern Pacific for this El Nino-Southern Oscillation phase.

25/7/46 (Item 1 from file: 108)
DIALOG(R)File 108:AEROSPACE DATABASE

02571681 A01-29689
Storms (ESA New Science Mission)
Sanderson, T. R.; Pace, O. (ESA, ESTEC, Noordwijk, Netherlands)
ESA Bulletin (ISSN 0376-4265), no. 105, Feb. 191, p. 58-59.
Feb. 2001
LANGUAGE: English
COUNTRY OF ORIGIN: Netherlands COUNTRY OF PUBLICATION: Netherlands
DOCUMENT TYPE: JOURNAL ARTICLE
DOCUMENTS AVAILABLE FROM AIAA Technical Library
JOURNAL ANNOUNCEMENT: IAA0107
The three-spacecraft constellation Storms is a mission to study magnetic storms and the inner magnetosphere. The most important scientific problems to be studied by the Storms spacecraft include the growth and decay of the ring current and the role of ionospheric oxygen; contributions of different current systems to the ground-based determination of storms; storm-substorm relationships; physical mechanisms for the injection of particles into the radiation belts; and forecasting of storms for space-weather purposes. In addition to the scientific research into magnetospheric storms, the Storms mission will also provide ESA with an excellent tool for practically real-time monitoring of storm development and detailed observations of the

most hazardous particle populations. (AIAA)

9/6/1
00746736 DA
TITLE: VALIDATION AND VERIFICATION OF CRITICAL DESIGN STORM CONCEPT USING CONTINUOUS SIMULATION
PUBLICATION DATE: 19970700

File 63:Transport Res(TRIS) 1970-2002/Dec

Set	Items	Description
S1	1969	STORM OR STORMS
S2	1435	DECAY??? OR DECOMPOS? OR CHEMICAL()WEATHERING
S3	3510	EQUILIBRIUM OR EQUALIZ? OR EQUALIS?
S4	13079	MOVE?? OR MOVING
S5	298	(HIGH AND LOW)()PRESSURE
S6	10544	GAS
S7	44555	AIR
S8	96	HIGH()PRESSURE AND LOW()PRESSURE
S9	**7**	**S1 AND S2**

9/7/1
DIALOG(R)File 63:Transport Res(TRIS)
(c) fmt only 2002 Dialog Corp. All rts. reserv.
00746736 DA
TITLE: VALIDATION AND VERIFICATION OF CRITICAL DESIGN STORM CONCEPT USING CONTINUOUS SIMULATION
AUTHOR(S): Nnadi, FN; Wanielista, MP; Eaglin, RD; Kline, FX; Wray, HL, Jr
CORPORATE SOURCE: University of Central Florida, Department of Civil and Environmental Engineering, P.O. Box 162450, Orlando, FL, 32816-2450, Florida Department of Transportation, 605 Suwannee Street , Tallahassee , FL, 32399-0450, Federal Highway Administration, 400 7th Street, SW, Washington, DC , 20590,
REPORT NUMBER: WPI 0510746,;Final Report
Pag: 399p
PUBLICATION DATE: 19970700 PUBLICATION YEAR: 1997
LANGUAGE: English SUBFILE: HRIS (H)
ISSN: N/A
BIBLIOGRAPHIC/DATA APPENDICES: 12 App.
AVAILABILITY: National Technical Information Service; 5285 Port Royal Road ; Springfield; VA ; 22161
ORDER NUMBER: PB97-198865
FUNDING TYPE: Contract
CONTRACT/GRANT NUMBER: B-9884
FIGURES: Figs. TABLES: Tabs.
REFERENCES: Refs.
PERIOD COVERED: 9508-9707
ABSTRACT: Recent advances in computer technology have increased the ability to simulate the environment with computer numerical models. These models are typically predictive in nature, allowing engineers to perform a "what-if" analysis of an environmental scenario. Therefore continuous simulation modeling was used to provide an alternative approach to calculating stormwater runoff from storm events. This **study generally was to test the ability of various design storm distributions to simulate the actual rainfall pattern in Florida.** Several commonly used distributions such as the SCS 24-hour and the

Suwannee River Water Management District (SRWMD) were tested over a range of frequencies from 2 to 100 years. The location was also varied to check the effectiveness of the distributions in different parts of the state. The approach used in this study was to compare the runoff from a design storm to the runoff that would result from actual rainfall. A total of nine rainfall gaging stations were selected around Florida with about 21 years of fifteen-minute rainfall data from four stations, and about 51 years of hourly rainfall data from five stations. The Florida Department of Transportation (FDOT)/SRWMD design distributions (storms lasting one to two hundred forty hours) were simulated over five watersheds in each gaging station. The rainfall from these stations was statistically analyzed to develop rainfall volumes for different frequencies and durations. The volumes were used with design storm distributions and allowed to "fall" on the test drainage areas to develop runoff hydrographs. Also using actual rainfall volumes and continuous simulation model SMADA v6.25, continuous runoff hydrographs were developed. The model uses a Horton type infiltration decay rate to account for peak discharges for various frequencies between 2 and 100 years. The peak discharges from the design storm hydrographs were compared with the peak discharges from the statistical analyses of continuous runoff hydrographs. This comparison assumes that computing the continuous runoff is as close as the actual runoff values from the test sites.
SUBJECT HEADING: H22 HYDROLOGY AND HYDRAULICS; I26 WATER RUN-OFF - FREEZE-THAW

File 369:New Scientist 1994-2002/Jan W1
File 370:Science 1996-1999/Jul W3
File 635:Business Dateline(R) 1985-2002/Jan 18
File 484:Periodical Abs Plustext 1986-2002/Jan W2
File 9:Business & Industry(R) Jul/1994-2002/Jan 17
File 16:Gale Group PROMT(R) 1990-2002/Jan 17
File 160:Gale Group PROMT(R) 1972-1989
File 148:Gale Group Trade & Industry DB 1976-2002/Jan 17
File 441:ESPICOM Pharm&Med DEVICE NEWS 2002/Dec W4
File 20:Dialog Global Reporter 1997-2002/Jan 18

Set	Items	Description
S1	259328	STORM OR STORMS
S2	79091	DECAY??? OR DECOMPOS? OR CHEMICAL()WEATHERING
S3	117132	EQUILIBRIUM OR EQUALIZ? OR EQUALIS?
S4	5107390	MOVE?? OR MOVING
S5	31472	(HIGH AND LOW)()PRESSURE
S6	1770584	GAS
S7	2519479	AIR
S8	262	S1(S)S2
S9	41472	S4(5N)S6:S7
S10	9743	HIGH(3W)PRESSURE AND LOW(3W)PRESSURE
S11	5	S8 AND S9:S10
S12	**5**	**RD (unique items)**

12/3,AB/2 (Item 2 from file: 484)
DIALOG(R)File 484:Periodical Abs Plustext

04950413 SUPPLIER NUMBER: 67195016 (USE FORMAT 7 OR 9 FOR FULLTEXT)
Surface mesohighs and mesolows
Johnson, Richard H

Bulletin of the American Meteorological Society (IAMS), v82 n1, p13-31, p. 19
Jan 2001
ISSN: 0003-0007 JOURNAL CODE: IAMS
DOCUMENT TYPE: Feature
LANGUAGE: English RECORD TYPE: Fulltext; Abstract
WORD COUNT: 9544
ABSTRACT: Through detailed and remarkably insightful analyses of surface data, Tetsuya Theodore Fujita pioneered modem mesoanalysis, unraveling many of the mysteries of severe storms. **In this paper Fujita's contributions to the analysis and description of surface pressure features accompanying tomadic storms and squall lines are reviewed.**

12/3,AB/3 (Item 3 from file: 484)
DIALOG(R)File 484:Periodical Abs Plustext
(c) 2002 ProQuest. All rts. reserv.
04802364 SUPPLIER NUMBER: 56536858 (USE FORMAT 7 OR 9 FOR FULLTEXT)
The influence of Carl-Gustaf Rossby on mesoscale weather prediction and an outlook for the future
Gall, Robert; Shapiro, Melvyn
Bulletin of the American Meteorological Society (IAMS), v81 n7, p1507-1523, p.17
Jul 2000
ISSN: 0003-0007 JOURNAL CODE: IAMS
DOCUMENT TYPE: Feature
LANGUAGE: English RECORD TYPE: Fulltext; Abstract
WORD COUNT: 8084
ABSTRACT: **This article presents an overview of the advances in mesoscale prediction from the time of Rossby to the present and an outlook for the future.** The first part traces the evolution of research and forecasting based upon the conservation of certain properties on isentropic coordinates.

12/3,AB,K/4 (Item 4 from file: 484)
DIALOG(R)File 484:Periodical Abs Plustext
(c) 2002 ProQuest. All rts. reserv.
02260064 (USE FORMAT 7 OR 9 FOR FULLTEXT)
The Coriolis force
de Grasse Tyson, Neil
Natural History (GNAH), v104 n3, p76-79, p.3
Mar 1995
ISSN: 0028-0712 JOURNAL CODE: GNAH
DOCUMENT TYPE: Feature
LANGUAGE: English RECORD TYPE: Fulltext; Abstract
WORD COUNT: 1782 LENGTH: Long (31+ col inches)
ABSTRACT: In 1835, Gaspard Gustave de Coriolis, described the laws of mechanics in a rotating reference frame. The Coriolis force is discussed.
TEXT:
... in their eastward orbits.)
Imagine a puffy cloud in the Northern Hemisphere and a meteorological low - pressure system directly to its north. The cloud will tend to move toward the low. But...
...Coriolis force), yet no true force was ever at work.
When puffy clouds approach a low - pressure system from all directions, you get a merry-go-round of counterclockwise motion, better known...
...of water and diminish my job security. So I didn't.
The air circulation near high - pressure systems, which are inelegantly known as anticyclones, is a reverse picture of our cyclone. On

Earth, these high - pressure systems are the astronomer's best friend because they typically repel clouds. The surrounding air...
...circulates, but it does so without the benefit of clouds as tracers. The **circulation around low - and high - pressure systems, known as geostrophic winds, presents us with the paradox that the Coriolis force tends to move air along lines of constant pressure (isobars), rather than across them.**

Now imagine, if you will...in Jupiter's southern hemisphere and rotates counterclockwise, which immediately tells us we have a high - pressure system. The coloration, from orange red to a barely visible pale cream, is generally attributed...
...interior thermal reservoirs that can drive its atmospheric flow patterns. One source is the radioactive decay of trace elements, while another is the leftover heat from Jupiter's initial contraction from...
...1995) and parachutes a miniprobe that will measure temperature, density, composition, wind speeds, and electrical storms as it descends through the outer atmosphere...

File 146:Washington Post Online 1983-2002/Jan 18
File 387:The Denver Post 1994-2002/Jan 17
File 471:New York Times Fulltext-90 Day 2002/Jan 18
File 492:Arizona Repub/Phoenix Gaz 19862002/Jan 06
File 494:St LouisPost-Dispatch 1988-2002/Jan 18
File 498:Detroit Free Press 1987-2002/Jan 17
File 630:Los Angeles Times 1993-2002/Jan 18
File 631:Boston Globe 1980-2002/Jan 17
File 632:Chicago Tribune 1985-_2002/Jan 18
File 633:Phil.Inquirer 1983-2002/Jan 17
File 638:Newsday/New York Newsday 1987-2002/Jan 17
File 640:San Francisco Chronicle 1988-2002/Jan 18
File 641:Rocky Mountain News Jun 1989-2002/Jan 12
File 702:Miami Herald 1983-2002/Jan 17
File 703:USA Today 1989-2002/Jan 17
File 704:(Portland)The Oregonian 1989-2002/Jan 17
File 713:Atlanta J/Const. 1989-2002/Jan 18
File 714:(Baltimore) The Sun 1990-2002/Jan 18
File 715:Christian Sci.Mon. 1989-2002/Jan 18
File 725:(Cleveland)Plain Dealer Aug 1991-2000/Dec 13
File 735:St. Petersburg Times 1989- 2000/Nov 01
File 476:Financial Times Fulltext 1982-2002/Jan 18
File 710:Times/Sun.Times(London) Jun 1988-2002/Jan 18
File 711:Independent(London) Sep 1988-2002/Jan 18
File 756:Daily/Sunday Telegraph 2000-2002/Jan 18
File 757:Mirror Publications/Independent Newspapers 2000-2002/Jan 18

Set	Items	Description
S1	366691	STORM OR STORMS
S2	77420	DECAY??? OR DECOMPOS? OR CHEMICAL()WEATHERING
S3	64494	EQUILIBRIUM OR EQUALIZ? OR EQUALIS?
S4	4150814	MOVE?? OR MOVING
S5	8093	(HIGH AND LOW)()PRESSURE
S6	531795	GAS
S7	1744752	AIR
S8	1903	HIGH(3W)PRESSURE AND LOW(3W)PRESSURE
S9	340	S1(S)S2
S10	493048	STABLE OR STABILI?

```
S11          3   S9(S)(S3 OR S10)
S12          1   S9(S)S8
S13          4   S11:S12
S14          4   RD (unique items) [not relevant]


File 350:Derwent WPIX 1963-2001/UD,UM &UP=200204
File 344:CHINESE PATENTS ABS APR 1985-2001/Dec
File 347:JAPIO OCT 1976-2001/Sep(UPDATED 020102)
File 371:French Patents 1961-2001/BOPI 200151
Set     Items   Description
S1       2266   STORM OR STORMS
S2     150275   DECAY??? OR DECOMPOS? OR CHEMICAL()WEATHERING
S3      83032   EQUILIBRIUM OR EQUALIZ? OR EQUALIS?
S4    1559499   MOVE?? OR MOVING
S5      43925   (HIGH AND LOW)()PRESSURE
S6    1092574   GAS
S7    1140330   AIR
S8     929868   STABLE OR STABILI?
S9          8   S1 AND S2
S10         3   S9 AND S3:S8
S11         5   S9 NOT S10 [see "titles only" section]


File 348:EUROPEAN PATENTS 1978-2002/Jan W03
File 349:PCT FULLTEXT 1983-2002/UB=20020117,UT=20020110
Set     Items   Description
S1       2599   STORM OR STORMS
S2      89350   DECAY??? OR DECOMPOS? OR CHEMICAL()WEATHERING
S3      64195   EQUILIBRIUM OR EQUALIZ? OR EQUALIS?
S4     395137   MOVE?? OR MOVING
S5      61599   (HIGH AND LOW)()PRESSURE
S6     260586   GAS
S7     339165   AIR
S8     329610   STABLE OR STABILI?
S9     140700   STABILIZ?
S10        25   S1(S)S2 [see "titles only" section]
S11         7   S10 (S)S3:S9
S12        81   WEATHER(N)(CONTROL? ? OR CONTROLL?)
S13         3   S12/TI,AB

13/6,K/2     (Item 1 from file: 349)
00176913
PROTECTIVE APPARATUS
INSTALLATION DE PROTECTION
Publication Language: Japanese
Publication Year: 1990
English Abstract
  ...of the solar rays exerting the greatest influences on the earth
  environment and effecting the  weather   control , and the like.

13/6,K/3     (Item 2 from file: 349)
00115814
DATA ACQUISITION SYSTEM FOR LARGE FORMAT VIDEO DISPLAY
SYSTEME DE SAISIE DE DONNEES POUR AFFICHAGE VIDEO A GRAND FORMAT
Publication Language: English
```

```
Fulltext Availability:
  Detailed Description
  Claims
Fulltext Word Count: 9994
Publication Year: 1983
English Abstract
  ...the system are virtually unlimited in the fields of agriculture,
  agronomy, animal husbandry, manufacturing, quality  control ,  weather ,
  medicine, and the like, and the possible forms of analysis are similary
  unlimited in that...


File   2:INSPEC 1969-2002/Jan W3
File   6:NTIS 1964-2002/Feb W1
File   8:Ei Compendex(R) 1970-2002/Jan W3
File  14:Mechanical Engineering Abs 1973-2002/Jan
File  19:Chem.Industry Notes 1974-2002/ISS 200203
File  29:Meteor.& Geoastro.Abs. 1970-2001/Dec
File  34:SciSearch(R) Cited Ref Sci 1990-2002/Jan W3
File  62:SPIN(R) 1975-2002/Dec W5
File  65:Inside Conferences 1993-2002/Jan W3
File  77:Conference Papers Index 1973-2002/Jan
File  94:JICST-EPlus 1985-2002/Dec W2
File  96:FLUIDEX 1972-2002/Jan
File  99:Wilson Appl. Sci & Tech Abs 1983-2001/Dec
File 103:Energy SciTec 1974-2001/Sep B2
File 108:AEROSPACE DATABASE 1962-2001/DEC
File 144:Pascal 1973-2002/Jan W3
File 238:Abs. in New Tech & Eng. 1981-2002/Jan
File 266:FEDRIP 2002/Dec
File 295:World Transl.Index 1979-1997/Dec
File 305:Analytical Abstracts 1980-2002/Jan W2
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
File  28:Oceanic Abst. 1964-2001/Nov
File  44:Aquatic Sci&Fish Abs 1978-2002/Jan
Set     Items   Description
S1       2553   WEATHER(2N)(CONTROL? ? OR CONTROLL?)/TI,DE OR CHEMICAL()WE-
            ATHERING/TI,DE
S2    2759157   STABLE OR STABILI?
S3      54112   EQUALIZ? OR EQUALIS?
S4        117   S1 AND S2:S3
S5        104   RD (unique items)
S6        104   Sort S5/ALL/PY,D
S7    2428449   PRESSURE  (January 1969)
S8          6   S6 AND S7

6/7/48     (Item 48 from file: 6)
DIALOG(R)File   6:NTIS
(c) 2002 NTIS, Intl Cpyrght All Rights Res. All rts. reserv.
2146579  NTIS Accession Number: AVA17239-VNB1/XAB
   Stable  and Safe
  Federal Aviation Administration, Washington, DC.
  Corp. Source Codes: 009020000
  Report No.: AVA17239
  1994   AV-VHS 1/2 inch - 1 cassette
  Languages: English
```

Journal Announcement: USGRDR0003
Audiovisual. This cassette is 1/2 inch, color with playing time of 20 minutes. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)605-6900; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
NTIS Prices: Not available NTIS
Country of Publication: United States
Contract No.: 18000
Reveals what frequently happens when pilots inadvertently fly into marginal or IFR weather and lose their visual reference, becoming dangerously disoriented. **Describes the different types of stability augmentation systems available for use in general aviation aircraft to assist pilots in maintaining control.**

6/7/59 (Item 59 from file: 144)
DIALOG(R)File 144:Pascal

10797749 PASCAL No.: 93-0307105
Geochemistry of water chemical weathering rates under a humid tropical climate
BENEDETTI M; MENARD O; NOACK Y
Fac. sci. tech. St Jerome, lab. geosci. environnement, Marseille, France
International symposium on water-rock interaction, 7 (Park City, UT) 1992-07-13
1992, 1 545-548
Publisher: A.A. Balkema, Rotterdam
Availability: Bureau de recherches geologiques et minieres (BRGM,France)-12854
Illus.: Illustrations No. of Refs.: 7 ref.
Document Type: C (Conference Proceedings) ; A (Analytic)
Country of Publication: Netherlands
Language: English

6/7/73 (Item 73 from file: 144)
DIALOG(R)File 144:Pascal

09193355 PASCAL No.: 90-0362537
Geochemistry; pathways and processes
(Geochimie: Cheminements et processus)
RICHARDSON Steven M; MCSWEEN Harry Y Jr
Iowa State Univ., Ames, IA, USA
1989 488
Publisher: Prentice-Hall, Englewood Cliffs, NJ
ISBN: 0-13-351073-5
Illus.: Illustrations
Document Type: L (Book) ; M (Monographic)
Country of Publication: USA
Language: English

6/7/93 (Item 93 from file: 2)
DIALOG(R)File 2:INSPEC

01192811 INSPEC Abstract Number: A78045257
Title: Chemical weathering on Mars. Thermodynamic stabilities of primary minerals (and their alteration products) from mafic igneous rocks
Author(s): Gooding, J.L.
Author Affiliation: Dept. of Geology & Inst. of Meteoritics, Univ. of New Mexico, Albuquerque, NM, USA

Journal: Icarus vol.33, no.3 p.483-513
Publication Date: March 1978 Country of Publication: USA
CODEN: ICRSA5 ISSN: 0019-1035
Language: English Document Type: Journal Paper (JP)
Treatment: Theoretical (T)
Abstract: Chemical weathering on Mars is examined theoretically from the standpoint of heterogeneous equilibrium between solid mineral phases and gaseous O/sub 2/, H/sub 2/O, and CO/sub 2/ in the Martian atmosphere. Thermochemical calculations are performed in order to identify important gas-solid decomposition reactions involving the major mineral constituents of mafic igneous rocks. Partial pressure stability diagrams are presented to show pertinent mineral reaction boundaries at 298 and at 240K. In the present Martian environment, the thermodynamically stable products of gas-solid weathering of individual minerals at 240K should be Fe/sub 2/O/sub 3/, as hematite or maghemite, quartz, calcite, magnesite, corundum, Ca-beidellite and szomolnokite. Albite, microcline, and apatite should be stable with respect to gas-solid decomposition, suggesting that gas-solid weathering products on Mars may be depleted in Na, K, and P (and, possibly, Cl and F). (72 Refs)
Subfile: A

6/7/100 (Item 100 from file: 6)
DIALOG(R)File 6:NTIS
(c) 2002 NTIS, Intl Cpyrght All Rights Res. All rts. reserv.
0606528 NTIS Accession Number: AD-829 804/4/XAB
A Three-Axes Angular Accelerometer Technique Applied to VTOL Stabilization
(Final technical rept., Feb 65-Dec 67)
Lease, J. E.
Teledyne Systems CO Northridge Calif
Corp. Source Codes: 403589
Report No.: AFFDL-TR-68-3
Jan 68 51p
Journal Announcement: GRAI7708
Distribution limitation now removed. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)321-8547; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
NTIS Prices: PC A04/MF A01
Contract No.: AF 33(615)-2361; AF-8222; 822209
This report documents the results of the development, fabrication, and testing of two Angular Reference Systems consisting of two Dual Axis Rate Transducers, one Three-Axis Angular Accelerometer, and the associated electronics required to provide the outputs of angular rate and angular rate summed with angular acceleration about three orthogonal axes. Prototype Angular Accelerometers and electronics were fabricated and integrated with two-axes rate gyros to provide the Angular Reference System for **VTOL stabilization** . (Author)

6/7/102 (Item 102 from file: 29)
DIALOG(R)File 29:Meteor.& Geoastro.Abs.
(c) 2001 Amer.Meteorological Soc. All rts. reserv.
0306817 MGA52120118
Chemical weathering, atmospheric CO<<SUB 2>> , and climate
Kump, Lee R.; Brantley, Susan L.; Arthur, Michael A.
Department of Geosciences and Earth System Science Center, The Pennsylvania State University, University Park, PA

Annual Review of Earth and Planetary Sciences, Palo Alto, CA, 28: 611-667, 2000. Refs., figs., tables. [MGA abstract available at: http://www.mganet.org].

Country of Publication: US

There has been considerable controversy concerning the role of chemical weathering in the regulation of the atmospheric partial pressure of carbon dioxide, and thus the strength of the greenhouse effect and global climate. Arguments center on the sensitivity of chemical weathering to climatic factors, especially temperature. Laboratory studies reveal a strong dependence of mineral dissolution on temperature, but the expression of this dependence in the field is often obscured by other environmental factors that co-vary with temperature. In the field, the clearest correlation is between chemical erosion rates and runoff, indicating an important dependence on the intensity of the hydrological cycle. Numerical models and interpretation of the geologic record reveal that chemical weathering has played a substantial role in both maintaining climatic stability over the eons as well as driving climatic swings in response to tectonic and paleogeographic factors.

6/7/103 (Item 103 from file: 29)
DIALOG(R)File 29:Meteor.& Geoastro.Abs.

0302498 MGA52070049

Does atmospheric CO<<SUB 2>> police the rate of chemical weathering?

Broecker, Wallace S.; Sanyal, Abhijit

Lamont-Doherty Earth Observatory of Columbia University, Palisades, NY; Alfred Wegener Institute for Polar and Marine Research, Bremerhaven, Germany

Global Biogeochemical Cycles, Washington, DC, 12(3): 403-408, September 1998. Refs., figs., table, appendix. (Paper 98GB01927). Available from The American Geophysical Union, 2000 Florida Ave., N.W., Wash., DC 20009. [MGA abstract available at: http://www.mganet.org].

Country of Publication: US

A case is made that in the absence of an effective feedback control on the rate of delivery of CaO to the oceans, the CO<<SUB 2>> content of the Earth's atmosphere would have wandered over a large range threatening life either by overheating or by carbon dioxide starvation. In this paper, we defend the suggestion by Walker et al. [1981] that control is exerted by the interaction between the CO<<SUB 2>> content of the atmosphere and the continental weathering rates. We contend that in spite of the arguments raised against it [Raymo and Ruddiman, 1992; Edmond and Huh, 1997] the CO<<SUB 2>> -chemical weathering feedback is the dominant mechanism that stabilizes the atmospheric carbon dioxide content.

File 369:New Scientist 1994-2002/Jan W1
File 370:Science 1996-1999/Jul W3

Set	Items	Description
S1	0	WEATHER(2N)(CONTROL? ? OR CONTROLL?)/TI,DE OR CHEMICAL()WEATHERING/TI,DE
S2	2986	STABLE OR STABILI?
S3	63	EQUALIZ? OR EQUALIS?
S4	0	S1 AND S2:S3

File 350:Derwent WPIX 1963-2001/UD,UM &UP=200204

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File 344:CHINESE PATENTS ABS APR 1985-2001/Dec
File 347:JAPIO OCT 1976-2001/Sep(UPDATED 020102)
File 371:French Patents 1961-2002/BOPI 200203
Set     Items   Description
S1        542   IC="A01G-015/00"
S2        213   IC="E01H-013":IC="E01H-013/00"
S3         72   WEATHER(2N)(CONTROL? ? OR CONTROLL?)/TI,DE OR CHEMICAL()WE-
               ATHERING/TI,DE
S4     929906   STABLE OR STABILI?
S5          5   S1:S2 AND S3
S6      52837   WEATHER
S7         60   S1:S2 AND S6
S8      64497   EQUALIS? OR EQUALIZ?
S9          5   (S4 OR S8) AND S7
S10         4   S9 NOT S5
S11     12414   WEATHER/TI
S12        21   (S1:S2 AND S11) NOT (S5 OR S10)
S13      2266   STORM OR STORMS
S14         1   S7 AND S13 AND S6
S15         1   S7 AND S13
S16        19   S13 AND S1:S2
S17        19   S16 NOT (S5 OR S10 OR S12)

5/7/2     (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Derwent Info Ltd. All rts. reserv.
008417809    **Image available**
WPI Acc No: 1990-304810/199040
  Satellite protective appts. - uses solar ray projection to  control
  weather  and generate nature artificially to protect earth environment
Patent Assignee: NAKAGAWA T (NAKA-I)
Inventor: NAKAGAWA T
Number of Countries: 031  Number of Patents: 003
Patent Family:
Patent No     Kind   Date    Applicat No    Kind   Date     Week
WO 9010378     A   19900920                          199040  B
AU 9051680     A   19901009                          199102
JP 2503987     X   19910207                          199112
Priority Applications (No Type Date): JP 8955288 A 19890305
Cited Patents: JP 57150328; JP 62220122
Patent Details:
Patent No  Kind Lan Pg   Main IPC    Filing Notes
WO 9010378    A
   Designated States (National): AT AU BB BG BR CA CH DE DK ES FI GB HU JP
   KR LK LU MC MG MW NL NO RO SD SE SU US
   Designated States (Regional): AT BE CH DE DK ES FR GB IT LU NL OA SE
Abstract (Basic): WO 9010378 A
        A protective appts. is disposed in space so as to face the earth
    earth and projects a solar ray shadow portion to the specific area of
    the earth. It controls the weather and generates nature artificially
    and locally by solar ray power generation and by a computer and
    protects the earth environment. The problems of the earth environment
    such as warming of the earth, destruction of the ozone layer, acid
    rain, forest degradation, desertification, food problems, and the like
    have become increasingly severe resulting from the drastic increase in
    the consumption of the fossil fuel as a result of the drastic increase
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in the word population in this century. These problems, if left uncorrected, will become more critical and global in and after the 21st century. Therefore, these problems are analysed and solved by means which controls locally the radiation of the solar rays exerting the greatest influences on the earth environment and effecting the weather control and the like.

Dwg.2/29

Derwent Class: P13; Q25; S03; T01; W06
International Patent Class (Additional): A01G-015/00 ; B64G-001/44; B64G-009/00; G01W-001/00; G06F-015/21; H01L-031/04; H02J-017/00

10/7/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

012879087 **Image available**
WPI Acc No: 2000-050920/200004
Method for changing weather in local zones of atmosphere near the ground
Patent Assignee: PESTOV D A (PEST-I)
Inventor: PESTOV D A
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
RU 2115296	C1	19980720	RU 97110297	A	19970625	200004	B

Priority Applications (No Type Date): RU 97110297 A 19970625
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
RU 2115296	C1			A01G-015/00	

Abstract (Basic): RU 2115296 C1

NOVELTY - **Method involves creating convective cloud by ascending air current; forming descending air current at predetermined distance from ascending air current zone.** Convective cloud is created by means of negative ion flux and descending air current is created by introducing positive ion flux into zone of atmosphere disposed in the course of wind relative to ascending air current formation zone during travel of convective cloud above predetermined territory. It results in formation of stable convective cell in lower atmosphere and provides ventilation of atmosphere.

USE - Applied meteorology, in particular, changing of temperature mode in predetermined region, cleaning of atmosphere from smog, mist etc.

ADVANTAGE - Increased efficiency and provision for creating required weather conditions. 2 cl, 1 dwgp

pp; 0 DwgNo 1/1

Derwent Class: P13; Q41
International Patent Class (Main): A01G-015/00
International Patent Class (Additional): E01H-013/00

12/7/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

013824922
WPI Acc No: 2001-309134/200133
Method for inproving desert and relieving persistent high temp. by artificially-influencing weather of hot air layer
Patent Assignee: HU S (HUSH-I)
Inventor: HE S
Number of Countries: 001 Number of Patents: 001

Patent Family:
Patent No Kind Date Applicat No Kind Date Week
CN 1285137 A 20010228 CN 2000102142 A 20000301 200133 B
Priority Applications (No Type Date): CN 2000102142 A 20000301
Patent Details:
Patent No Kind Lan Pg Main IPC Filing Notes
CN 1285137 A A01G-015/00
Abstract (Basic): CN 1285137 A

NOVELTY - The hot air layer weather modification for controlling desert and removing persistence high temp. belongs to the field of atmospheric physics. The detection of hot air layer weather mainly is detection of front zone, the progressive change zone of temp. of cold front and hot front possesses obvious gradient change and turbulene change, i,e, this is front zone. Its also can utilize humitidy factorto detect front zone, the humidity being in front zone is greater than that of hot and cold fronts, the front zone of desert is relatively clear and visual, and the zone of city and island is relatively hidden, generally, at 500-1000 m from ground or top of mountain the radar can easily detect out zone. When the fron zone is broken at several points, several hot air mass centres can produce respective oscillation to form respective electromagnetic field, and can product discharge and possess great destroying force.

DwgNo 0/0

Derwent Class: P13
International Patent Class (Main): A01G-015/00

12/7/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX

013749063
WPI Acc No: 2001-233292/200124
Weather correction apparatus
Patent Assignee: TEKHKOMTEKH CO LTD (TEKH-R)
Inventor: BONDARENKO N N; CHEVARDOV S G; ROSTOPCHIN V V; UIBO V I
Number of Countries: 001 Number of Patents: 001
Patent Family:
Patent No Kind Date Applicat No Kind Date Week
RU 2161881 C2 20010120 RU 99107952 A 19990413 200124 B
Priority Applications (No Type Date): RU 99107952 A 19990413
Patent Details:
Patent No Kind Lan Pg Main IPC Filing Notes
RU 2161881 C2 5 A01G-015/00
Abstract (Basic): RU 2161881 C2

NOVELTY - Apparatus has combination of point emitters generating charged particles according to predetermined program. Each emitter has frame formed as equilateral pyramid with wire wound along frame perimeter. Frame is fixed on support by means of holder and supporting socket. High-voltage isolator is positioned between support and socket. Arrangement of emitters depends on local relief, wind mode parameters and target. Effective arrangement of emitters and realization of individual mode of operation for each emitter provide for flexible control of apparatus operation. Apparatus may be used for preventing or reducing unfavorable consequences of fog, low-level clouds and other atmospheric effects.

USE - Agriculture.

ADVANTAGE - Increased efficiency in revenging adverse action of

atmospheric formations by flexible controlling of operating modes of emitters. 5 cl, 4 dwg
pp; 5 DwgNo 0/0
Derwent Class: P13; X25
International Patent Class (Main): A01G-015/00

12/7/3 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Derwent Info Ltd. All rts. reserv.
013538416 **Image available**
WPI Acc No: 2001-022622/200103
Method for changing weather conditions within predetermined space and system for evaluating degrees of changing atmospheric circulation within space
Patent Assignee: MULTIKOM HOLDING CO LTD (MULT-R)
Inventor: BENDEROV V V; BONDARENKO N N; UIBO V I
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
RU 2154371	C2	20000820	RU 96121298	A	19961024	200103	B

Priority Applications (No Type Date): RU 96121298 A 19961024
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
RU 2154371	C2			A01G-015/00	

Abstract (Basic): RU 2154371 C2
NOVELTY - Method involves creating ionized up air flow; providing dosed action of this flow within time interval ranging between several hours and several days; inducing disturbance of natural air mass circulation process at different altitudes in different spatial scales over territories of several to thousands kilometers. System has weather satellite and aviation facilities, such as aircrafts-weather laboratories.
USE - Agriculture and other branches of industry.
ADVANTAGE - Increased efficiency in controlling air mass circulation processes. 3 cl, 1 dwg
pp; 0 DwgNo 1/1
Derwent Class: P13; Q41
International Patent Class (Main): A01G-015/00
International Patent Class (Additional): E01H-013/00

12/7/18 (Item 1 from file: 347)
DIALOG(R)File 347:JAPIO
(c) 2002 JPO & JAPIO. All rts. reserv.
04904828
METHOD AND EQUIPMENT FOR IMPROVING HYDRAULIC WEATHER PHENOMENON
PUB. NO.: 07-197428 [JP 7197428 A]
PUBLISHED: August 01, 1995 (19950801)
INVENTOR(s): ZAHAROFU BURAJIIMIRU MATOBUEEBUITSUCHI
KARIYAAGIN NIKORAI BUASHIIRIEBUITSUCHI
PAREI AREKUSEI AREKUSEEBUITSUCHI
UIBO BUAREERII IOGANESOBUITSUCHI
TANAKA MASAYA
OBATA SHOICHI
HARA OKITADA
YAMAMOTO KATSUHARU
KAMASE YUKIHIRO
APPLICANT(s): ZAHAROFU BURAJIIMIRU MATOBUEEBUITSUCHI [000000] (An Individual)

KARIYAAGIN NIKORAI BUASHIIRIEBUITSUCHI [000000] (An Individual)
PAREI AREKUSEI AREKUSEEBUITSUCHI [000000] (An Individual)
UIBO BUAREERII IOGANESOBUITSUCHI [000000] (An Individual)
ISHIKAWAJIMA HARIMA HEAVY IND CO LTD [000009] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 05-312330 [JP 93312330]
FILED: December 13, 1993 (19931213)

12/7/19 (Item 2 from file: 347)
DIALOG(R)File 347:JAPIO
(c) 2002 JPO & JAPIO. All rts. reserv.
02303222
SUPPRESSION ACTION OF WEATHER PHENOMENA
PUB. NO.: 62-220122 [JP 62220122 A]
PUBLISHED: September 28, 1987 (19870928)
INVENTOR(s): IEN CHIYUN CHII
JIYARUUN HORATAI
APPLICANT(s): IEN CHIYUN CHII [000000] (An Individual), HK (Hong Kong)
JIYARUUN HORATAI [000000] (An Individual), HK (Hong Kong)
APPL. NO.: 62-042471 [JP 8742471]
FILED: February 25, 1987 (19870225)
PRIORITY: 8604590 [GB 864590], GB (United Kingdom), February 25, 1986 (19860225)

12/7/21 (Item 4 from file: 347)
DIALOG(R)File 347:JAPIO
(c) 2002 JPO & JAPIO. All rts. reserv.
01179213
OPERATION OF WEATHER
PUB. NO.: 58-116613 [JP 58116613 A]
PUBLISHED: July 11, 1983 (19830711)
INVENTOR(s): OKUBO KOJI
APPLICANT(s): OKUBO KOJI [000000] (An Individual), JP (Japan)
APPL. NO.: 56-214399 [JP 81214399]
FILED: December 26, 1981 (19811226)

14/7/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Derwent Info Ltd. All rts. reserv.
012521695
WPI Acc No: 1999-327801/199928
Reduction of typhoon and desert storm - by using heavy blast wave super-pressure produced by explosion of blasting apparatus in limit-less air medium to cancel out internal-external pressure difference of typhoon and desert storm cyclone
Patent Assignee: XIE Y (XIEY-I)
Inventor: XIE Y
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
CN 1209263	A	19990303	CN 97115738	A	19970821	199928	B

Priority Applications (No Type Date): CN 97115738 A 19970821
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
CN 1209263	A		1	A01G-015/00	

Abstract (Basic): CN 1209263 A

The system uses the heavy blast wave super-pressure produced by explosion of blasting apparatus in the limitless air medium to cancel out the internal-external pressure difference of typhoon and desert storm cyclone to progressively reduce and eliminate the energy produced by cyclone high-speed rotation.

It also uses the kinetic energy and internal-external pressure difference analysed by computer on image transferred from weather satellite to implement blasting to radically reduce and eliminate natural calamity or soil desertification.

Derwent Class: P13
International Patent Class (Main): A01G-015/00

17/7/9 (Item 9 from file: 350)
DIALOG(R)File 350:Derwent WPIX

010390882
WPI Acc No: 1995-292196/199538
Disrupting a mature tropical cyclone - by introducing hydrate agent into cyclone eye wall so that particles become heavier causing eye to expand outwards and enlargen
Patent Assignee: ROVELLA E J (ROVE-I)
Inventor: ROVELLA E J
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 5441200	A	19950815	US 93109521	A	19930820	199538	B

Priority Applications (No Type Date): US 93109521 A 19930820
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5441200	A		6	A01G-015/00	

Abstract (Basic): US 5441200 A

Mature developed tropical cyclone having an eye wall is disrupted by: introducing a hydrate agent into the eye wall so that the winds circulate the agent throughout the eye wall; increasing the centrifugal force on the eye wall as a result of the hydrate agent associating with the water and becoming heavier; and as a result, increasing the dia. of eye wall.

ADVANTAGE - **Increasing the size of the eye wall shows the wind speeds and prevents storm surges.**

Dwg.0/4

Derwent Class: G04; P13
International Patent Class (Main): A01G-015/00

17/7/11 (Item 11 from file: 350)
DIALOG(R)File 350:Derwent WPIX

010297798 **Image available**
WPI Acc No: 1995-199058/199526
Anti-hail shock wave generator for crop protection in storm - has conical shroud surrounding barrel, with positive ions drawn into area in front of barrel where shock waves displace ions upwardly to cloud level
Patent Assignee: OLLIVIER G (OLLI-I)
Inventor: OLLIVIER G
Number of Countries: 002 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week

US 5411209 A 19950502 US 93138598 A 19931018 199526 B
CA 2140488 A 19960719 CA 2140488 A 19950118 199647 N
Priority Applications (No Type Date): US 93138598 A 19931018; CA 2140488 A 19950118
Patent Details:
Patent No Kind Lan Pg Main IPC Filing Notes
US 5411209 A 5 A01G-015/00
CA 2140488 A A01G-015/00
Abstract (Basic): US 5411209 A

A shroud is provided which surrounds the barrel of the generator for guiding a convective air flow vertically along the sides of the barrel to an orifice of the barrel. Positive ions present in the ambient air and also created by the environment surrounding the hot barrel are drawn upwardly by convection and a negative pressure following each explosion.

The shroud is higher than the barrel and positive ions are drawn into the area in front of the barrel where shock waves displace the ions upwardly to cloud level for preventing hail nuclei formation.

ADVANTAGE - Improves transmission of positive ions from ground level to cloud level. Crop damage due to hail is eliminated or significantly reduced.

Dwg.2/2

Derwent Class: P13; X25
International Patent Class (Main): A01G-015/00

17/7/12 (Item 12 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Derwent Info Ltd. All rts. reserv.
009795037
WPI Acc No: 1994-074890/199410
Device for weakening and subsiding typhoon or other storm wind - comprises discharge body with batteries , all carried by balloon into eye of storm where discharge device is charged via batteries to cause short circuit of electric storm field NoAbstract
Patent Assignee: LI S (LISS-I)
Inventor: LI S
Number of Countries: 001 Number of Patents: 001
Patent Family:
Patent No Kind Date Applicat No Kind Date Week
CN 1071802 A 19930512 CN 91109975 A 19911031 199410 B
Priority Applications (No Type Date): CN 91109975 A 19911031
Patent Details:
Patent No Kind Lan Pg Main IPC Filing Notes
CN 1071802 A A01G-015/00
Derwent Class: P13
International Patent Class (Main): A01G-015/00

17/7/14 (Item 14 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Derwent Info Ltd. All rts. reserv.
009493931
WPI Acc No: 1993-187466/199323
Redn. of electric activity of thunder storm clouds - by introducing drops of fibre-forming compsn. between two zones having opposite polarity charges
Patent Assignee: MOSC POWER INST (MOPO)
Inventor: GODZISHEVSKAYA T V; KONTUSH S M; VERESHCHAGIN I P

Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
SU 1741661	A1	19920623	SU 4821701	A	19900327	199323 B
			SU 4821702	A	19900327	

Priority Applications (No Type Date): SU 4821702 A 19900327; SU 4821701 A 19900327
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
SU 1741661	A1		4	A01G-015/00	

Abstract (Basic): SU 1741661 A

The method is based on introduction of drops of an electroconductive, fibre-forming compsn. into the space between two zones having spatial charges of opposite polarity. The fibre-forming compsn. contains (in wt.%): polyvinyl alcohol 9-31, calcium chloride 0.5-3 and balance water, or polyvinyl butyral 10-26, calcium chloride 0.5-3 and balance ethanol. The compsn. is introduced in the form of drops of size at least 100 microns, into zones having field potential above 50 kV. Calcium chloride is used as a hygroscopic additive.

Under the action of electrostatic forces of external field the drops of compsn. undergo elongation and form thin longitudinal fibres of 1-20 micron dia. and 1-30 cm length. Formed fibres have high surface conductivity in humid media, resulting in corona discharges on their ends in electric field characteristic for storm clouds (i.e. 0.5-4.0 kV/cm), at minimal consumption of solvent.

The method eliminates necessity of metallisation or carbonisation of fibres. The cost is reduced owing to reduced consumption of reagent and elimination of metal agent. Storage life of compsn. is at least one year.

USE/ADVANTAGE - For redn. of electric activity of storm clouds. The method reduces consumption of material and provides high efficiency. Bul.23/23.6.92

Dwg. 0/0

Derwent Class: A97; G04; P13
International Patent Class (Main): A01G-015/00

17/7/17 (Item 1 from file: 344)
DIALOG(R)File 344:CHINESE PATENTS ABS

4041801
APPARATUS FOR WEAKENING AND SUBSIDING TYPHOON OR OTHER STORM WIND
Patent Assignee: LI SHUIMU (CN)
Author (Inventor): LI SHUIMU (CN)
Number of Patents: 001
Patent Family:

CC	Number	Kind	Date	
CN	1071802	A	930512	(Basic)

Application Data:

CC	Number	Kind	Date
*CN	91109975	A	911031

Abstract: The invention relates to a system for weakening and subsiding typhoon or other storms. It is composed of ship body, batteries (in the ship), and discharge device connected to the batteries, all of which are carried by a balloon rising into the sky, and a remote controlled switch is connected to the discharge device and the batteries for

control of current pass from the batteries to the dischrge device. When the ship is sent to the vicinity of the storm eye, the remote conrolled switch is activated and **the discharge device is charged and then discharges to the storm cloud, thus causing a short circuit of the electric storm field and a consequent lightning and whereby weakening and reducing the intensity of the storm.**

File 348:EUROPEAN PATENTS 1978-2002/Jan W03
File 349:PCT FULLTEXT 1983-2002/UB=20020117,UT=20020110

Set	Items	Description
S1	29	IC="A01G-015/00"
S2	34	IC="E01H-013/00"
S3	61	S1:S2
S4	2599	STORM OR STORMS
S5	19858	WEATHER
S6	**1**	**S3 AND S4**
S7	**11**	**S3 AND S5**

6/3,AB/1 (Item 1 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
(c) 2002 WIPO/Univentio. All rts. reserv.
00362411
METHOD OF PROTECTING AGAINST TROPICAL CYCLONES
PROCEDE DE PROTECTION CONTRE LES CYCLONES TROPICAUX
Patent and Priority Information (Country, Number, Date):
Patent: WO 9702736 A1 19970130
Application: WO 95GB2203 19950918 (PCT/WO GB9502203)
Priority Application: GB 9514272 19950713
Designated States: AM AU BB BG BR BY CA CH CN CZ EE FI GB GE HU JP KE KG KP KR KZ LK LR LT LV MD MG MN MW MX NO NZ PL RO RU SD SI SK TJ TT UA US UZ VN KE MW SD SZ UG AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN ML MR NE SN TD TG
Publication Language: English
Fulltext Word Count: 3301
English Abstract

A method of protecting an environment or area against tropical cyclones is disclosed involving determining the path parameters of the tropical cyclone, selecting action zones therein and periodically acting in said zones on convective flows in the cloud system of the tropical cyclone, measuring the wind field while determining path parameters and localizing the zones of maximum deceleration and maximum value of the tangential component of vortex rotation, both of these zones or one of them being chosen as action zones thereby ensuring the movement of the tropical cyclone in a safe direction. Regeneration of the convective flow is caused in the zone of maximum values of the tangential component to increase the vortex intensity (at the stage of a meso-scale formation) to the stage of a young tropical cyclone with low mobility and displace the deceleration zone towards the vortex centre.

7/3,AB/1 (Item 1 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
(c) 2002 European Patent Office. All rts. reserv.
00741047
Method for protecting a territory against cyclones
Verfahren zum Schutzen von Territorium gegen Zyklonen

Procede pour proteger un territoire contre des cyclones
PATENT ASSIGNEE:
Pokhmelnykh, Lev Alexandrovich, (1830770), Ulitsa Bratskaya, 19, Korpus 2, kv. 54, Moscow, (RU), (applicant designated states: AT;BE;CH;DE;DK;ES;FR;GB;GR;IE;IT;LI;LU;MC;NL;PT;SE)
INVENTOR:
Pokhmelnykh, Lev Alexandrovich, Ulitsa Bratskaya, 19, Korpus 2, kv. 54, Moscow, (RU)
LEGAL REPRESENTATIVE:
Sparing - Rohl - Henseler Patentanwalte (100366), Rethelstrasse 123, D-40237 Dusseldorf, (DE)
PATENT (CC, No, Kind, Date): EP 699382 A1 960306 (Basic)
APPLICATION (CC, No, Date): EP 94113581 940831;
PRIORITY (CC, No, Date): EP 94113581 940831
DESIGNATED STATES: AT; BE; CH; DE; DK; ES; FR; GB; GR; IE; IT; LI; LU; MC; NL; PT; SE
INTERNATIONAL PATENT CLASS: A01G-015/00
ABSTRACT EP 699382 A1
A method for protecting a territory against cyclones resides in the following: into the atmosphere over the area to be protected, on the probable path, along which a cyclone travels, a negative electrical space charge is introduced some 1 to 20 days before the expected arrival of the cyclone at the territory to be protected.
ABSTRACT WORD COUNT: 67
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPAB96	121
SPEC A	(English)	EPAB96	1132
Total word count - document A			1253
Total word count - document B			0
Total word count - documents A + B			1253

7/3,AB/7 (Item 5 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00397827
AN ATMOSPHERIC INVERSION LAYER DE-STABILIZER APPARATUS
APPAREIL DE DESTABILISATION DE LA COUCHE D'INVERSION ATMOSPHERIQUE
Patent and Priority Information (Country, Number, Date):
Patent: WO 9738570 A1 19971023
Application: WO 96US5121 19960415 (PCT/WO US9605121)
Priority Application: WO 96US5121 19960415
Designated States: AM AT AU BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU IS JP KE KG KP KR KZ LK LR LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TT UA UG US UZ VN KE LS MW SD SZ UG AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN ML MR NE SN TD TG
Publication Language: English
Fulltext Word Count: 6124
English Abstract
An atmospheric inversion layer de-stabilizer apparatus is using the energy of the water vapor present in the earth's atmosphere to **de-stabilize an atmospheric inversion layer, as a way to disperse the air pollutants concentrated below the inversion layer, in time to prevent photochemical reactions and smog formation.** The apparatus may also be

used to alleviate frost, disperse fog, and control the atmosphere's composition above of a limited geographic area. The apparatus is using a ring balloon (26) filled with lighter than air gas, to elevate vertically in the atmosphere an air transport shuttle (42), and a control platform (122) to control the altitude and the ascending and descending speed of the air transport shuttle (42) via a vertical cable (102) attached to the air transport shuttle (42) and wounded on a motorized reel (146).

7/3,AB/8 (Item 6 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
(c) 2002 WIPO/Univentio. All rts. reserv.
00359683
METHOD OF ACTING ON CONVECTIVE CLOUDS
PROCEDE POUR AGIR SUR DES NUAGES DE CONVECTION
Patent and Priority Information (Country, Number, Date):
Patent: WO 9700008 A1 19970103
Application: WO 95GB2148 19950908 (PCT/WO GB9502148)
Priority Application: RU 95109091 19950615
Designated States: AM AU BB BG BR BY CA CN CZ EE FI GB GE HU JP KE KG KP KR KZ LK LR LT LV MD MG MN MW MX NO NZ PL RO SD SI SK TJ TT UA US UZ VN KE MW SD SZ UG AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN ML MR NE SN TD TG
Publication Language: English
Fulltext Word Count: 5779
English Abstract
A method of acting on convective clouds is disclosed which comprises the steps of determining the development stage of a cloud and its direction of movement, **selecting action zones therein and forming descending air flows or introducing a crystallizing reagent into said action zones.** The action zones are chosen to be at the front and back parts of the cloud, two points then being selected which are situated on opposite sides of the point of deceleration of the tangential component of cloud rotation as viewed from the front and back parts, respectively, at a distance of 1 to 10 km from the first visible side boundary of the cloud, and the point of maximum value of the tangential component of cloud rotation and at a distance of 1 to 10 km from the second visible side boundary of the cloud, ascending or descending air flows being formed simultaneously or successively in two, three or four of said action zones.

7/3,AB/9 (Item 7 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
(c) 2002 WIPO/Univentio. All rts. reserv.
00305348
MICROCLIMATE CONTROL APPARATUS
APPAREIL DE REGULATION DU MICRO-CLIMAT
Patent Applicant/Assignee:
REDFORD Daniel S,
Inventor(s):
REDFORD Daniel S,
Patent and Priority Information (Country, Number, Date):
Patent: WO 9523499 A1 19950908
Application: WO 94US2337 19940304 (PCT/WO US9402337)
Priority Application: WO 94US2337 19940304
Designated States: AT AU BB BG BR BY CA CH CN CZ DE DK ES FI GB HU JP KP KR KZ LK LU LV MG MN MW NL NO NZ PL PT RO RU SD SE SI SK UA UZ VN AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN ML MR NE

SN TD TG
Publication Language: English
Fulltext Word Count: 7034
English Abstract
A microclimate control apparatus utilizing the water vapor present in the earth's atmosphere as a natural energy source for promoting vertical air movement inside the apparatus, to gather, transport and distribute condensed water. The apparatus is positioned in the air using a proportional suspension system and a balloon enclosure (24) that suspends a tubular sleeve (53) containing water condensation surfaces within, and a hollow, convective lifting column (72) held in the atmosphere by circular ring balloons (106) positioned along the height of the apparatus, its altitude being controlled by a vertical cable (42) wound on a motorized reel (46) attached to the ground. The apparatus water condenser (54) generates and maintains condensation conditions for the water present in the ascending air stream, promoting convective air movement inside the apparatus.

7/3,AB/10 (Item 8 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00199141
METHOD AND APPARATUS FOR DISPELLING FOG
PROCEDE ET APPAREIL SERVANT A DISSIPER LE BROUILLARD
Patent and Priority Information (Country, Number, Date):
Patent: WO 9116500 A1 19911031
Application: WO 91US2539 19910412 (PCT/WO US9102539)
Priority Application: US 90902 19900412; US 90906 19900412
Designated States: AT BE CA CH DE DK ES FR GB GR IT JP LU NL SE
Publication Language: English
Fulltext Word Count: 4152
English Abstract
Fog is dispelled from a site such as an airport or racetrack for weather modification by passing fog-laden air into a drying unit (10) where it is contacted with a desiccant liquid (either an aqueous solution of a deliquescent absorbent which is not calcium chloride or a liquid desiccant such as glycerol or certain others) under conditions which effectuate absorportion of the water particles and some water from the air effective to increase the temperature of the air and dry it to a predetermined relative humidity range, then discharging the dried heated air from the unit into fog-laden air (19) at the site to effectuate vaporization of suspended water particles and associated cooling of the discharged air without development of thermals of the discharged air sufficient to create substantial circulation of fog-laden air into the site.

7/3,AB/11 (Item 9 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00176913
PROTECTIVE APPARATUS
INSTALLATION DE PROTECTION
Patent Applicant/Assignee:
NAKAGAWA Takeo,
Inventor(s):
NAKAGAWA Takeo,
Patent and Priority Information (Country, Number, Date):

Patent: WO 9010378 A1 19900920
Application: WO 90JP283 19900305 (PCT/WO JP9000283)
Priority Application: JP 8955288 19890305
Designated States: AT AT AU BB BE BF BG BJ BR CA CF CG CH CH CM DE DE DK DK ES ES FI FR GA GB GB HU IT JP KR LK LU LU MC MG ML MR MW NL NL NO RO SD SE SE SN SU TD TG US
Publication Language: Japanese
English Abstract

This invention relates to a protective apparatus which is disposed in the space so as to face the earth, projects a solar ray shadow portion to the specific area of the earth, **controls the weather and generates nature artificially and locally by solar ray power generation and by a computer and protects the earth environment**. The problems of the earth environment such as warming of the earth, destruction of the ozone layer, acid rain, forest degradation, desertification, food problems, and the like have become increasingly severe resulting from the drastic increase in the consumption of the fossil fuel as a result of the drastic increase in the world population in this century. These problems, if left uncorrected, will become more critical and global in and after the 21th century. Therefore, these problems are analyzed and solved by means which controls locally the radiation of the solar rays exerting the greatest influences on the earth environment and effecting the weather control, and the like.

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File  40:Enviroline(R) 1975-2002/Jan
File  10:AGRICOLA 70-2001/Dec
File 111:TGG Natl.Newspaper Index(SM) 1979-2002/Jan 16
Set     Items   Description
S1        215   WEATHER(2N)(CONTROL? ? OR CONTROLL?)/TI,DE OR CHEMICAL()WE-
            ATHERING/TI,DE
S2      49635   STABLE OR STABILI?
S3       1050   EQUALIZ? OR EQUALIS?
S4          1   S1 AND S2:S3
S5      14590   STORM OR STORMS
S6      17469   DECAY??? OR DECOMPOS? OR CHEMICAL()WEATHERING
S7       8695   EQUILIBRIUM OR EQUALIZ? OR EQUALIS?
S8      63955   MOVE?? OR MOVING
S9        335   (HIGH AND LOW)()PRESSURE
S10    129038   GAS
S11    168042   AIR
S12     15321   WEATHER/TI,DE
S13        44   CHEMICAL()WEATHERING/TI,DE
S14         7   S12:S13 AND S5 AND (S2 OR S7)
S15         7   S14 NOT S13
S16         7   RD (unique items) (see "titles only" section)

File 609:Bridge World Markets 2000-2001/Oct 01
Set     Items   Description
S1      13990   STORM OR STORMS
S2       2202   DECAY??? OR DECOMPOS? OR CHEMICAL()WEATHERING
S3       2675   EQUILIBRIUM OR EQUALIZ? OR EQUALIS?
S4     345782   MOVE?? OR MOVING
S5        838   (HIGH AND LOW)()PRESSURE
S6     103595   GAS
S7      49620   AIR
S8          0   WEATHER(2N)(CONTROL? ? OR CONTROLL?)/TI,DE OR CHEMICAL()WEATHER-
            ING/TI,DE
S9      98253   STABLE OR STABILI?
S10       758   EQUALIZ? OR EQUALIS?
S11         0   S8 AND S9:S10
S12        75   WEATHER(2N)(CONTROL? ? OR CONTROLL?) OR CHEMICAL()WEATHERING
S13         8   S1 (S)S12
S14         6   S12(S)(S3 OR S9)
S15         5   S12(S)S5
S16        18   S13:S15
S17        12   RD (unique items)
S18        12   Sort S17/ALL/PD,D [not relevant]
```

TITLES ONLY

5/26,TI/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Derwent Info Ltd. All rts. reserv.
011663070
WPI Acc No: 1998-079979/199808
Artificial precipitation method for weather control - involves ice-crystal generation, growth and diffusion process when strong cold agent is dispersed horizontally in super cooling cloud or fog

5/26,TI/3 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Derwent Info Ltd. All rts. reserv.
000961516
WPI Acc No: 1973-38764U/197328
Weather control - with cloud and for dissipation using polyfunctional alcohols esp sugars and polyvinyl alcohols

5/26,TI/4 (Item 1 from file: 347)
DIALOG(R)File 347:JAPIO
(c) 2002 JPO & JAPIO. All rts. reserv.
03498030
CONTROLLING OF WEATHER BY MATERIAL FLOATING IN OUTER SPACE

5/26,TI/5 (Item 2 from file: 347)
DIALOG(R)File 347:JAPIO
(c) 2002 JPO & JAPIO. All rts. reserv.
00653532
MINUTE WEATHER CONTROL BY FINE GAS BUBBLE AND WATER DROPLET

10/26,TI/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Derwent Info Ltd. All rts. reserv.
010091068
WPI Acc No: 1994-358781/199445
Stable solid pyrotechnic mixt. useful for influencing weather - is prepd. from silver iodide and/or iodate, potassium or ammonium perchlorate or beryllium nitrate and metal fuel in shellac, wax or magnesium calcium stearate matrix

10/26,TI/3 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Derwent Info Ltd. All rts. reserv.
008622906
WPI Acc No: 1991-126936/199118
Electrostatic manipulation of pptn, fog and lighting discharge - uses balloon cables to transfer electric charge between ground or intermediate levels and upper atmosphere

10/26,TI/4 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Derwent Info Ltd. All rts. reserv.
000847794
WPI Acc No: 1972-07749T/197205
Combustible composition for modifying weather conditions by prodn - of

an aerosol smoke of nuclei of hygroscopic particles

12/26,TI/4 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX

012850398
WPI Acc No: 2000-022230/200002
Satellite weather modification system

12/26,TI/5 (Item 5 from file: 350)
DIALOG(R)File 350:Derwent WPIX

012507484
WPI Acc No: 1999-313589/199927
Method for moving atmospheric cloud layer for influencing weather - involves ascending flying object carrying electro-magnetism producing device to certain cloud region to magnetise water vapour particles and ice crystals in cloud region

12/26,TI/6 (Item 6 from file: 350)
DIALOG(R)File 350:Derwent WPIX

012112692
WPI Acc No: 1998-529604/199845
Procedure for varying the temperature of atmospheric air, e.g. with a view to altering weather - creating electrical potential over area of near-earth atmosphere which is different from potential of earth surface

12/26,TI/7 (Item 7 from file: 350)
DIALOG(R)File 350:Derwent WPIX

011477822
WPI Acc No: 1997-455729/199742
Method of influencing weather to prevent precipitation - delivering ice-forming reagent by aircraft with aerosol generator during convective cloud development

12/26,TI/8 (Item 8 from file: 350)
DIALOG(R)File 350:Derwent WPIX

010943107
WPI Acc No: 1996-440057/199644
Weather improving appts to prevent excess of heavy rain fall, thick fog from occurring in airports, highway - makes use of charged particles formed by electric field of control wire, through corona discharge to be coupled with water content elements in atmosphere to condense them into water drops

12/26,TI/9 (Item 9 from file: 350)
DIALOG(R)File 350:Derwent WPIX

010631358
WPI Acc No: 1996-128311/199613
Weather modifying vicinity of body of water near land mass - pumping cold water from depth of body of water to its surface over large area enhancing absorption of solar radiation during summer and consequently

increasing amount of heat stored in body of water

12/26,TI/10 (Item 10 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Derwent Info Ltd. All rts. reserv.
010269406
WPI Acc No: 1995-170661/199523
Artificial weather affecting technology system - adopts expert system in selection of artificial rain-increasing and hail-preventing and uses applied software of MIGSA medium scale graph and picture working station

12/26,TI/11 (Item 11 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Derwent Info Ltd. All rts. reserv.
009189810
WPI Acc No: 1992-317246/199239
Method of combating whirlwind - involves aircraft to identify characteristic weather and climatic conditions and drop hydrogen@ filled balloons which are exploded to reform cloud structure

12/26,TI/12 (Item 12 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Derwent Info Ltd. All rts. reserv.
008953187
WPI Acc No: 1992-080456/199211
Method of weather modification - involves using ship to pump water between different depths to alter water temp. at desired zone

12/26,TI/13 (Item 13 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Derwent Info Ltd. All rts. reserv.
008606853
WPI Acc No: 1991-110883/199116
Controlled influence on general weather conditions - achieved by pumping large volume of sea water to desert areas

12/26,TI/14 (Item 14 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Derwent Info Ltd. All rts. reserv.
004097557
WPI Acc No: 1984-243098/198439
Weather modification method - increases heat storage of seas westwardly of arid zone during summer

12/26,TI/15 (Item 15 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Derwent Info Ltd. All rts. reserv.
001302194
WPI Acc No: 1975-J6111W/197534
Ice nuclei smoke particle generator for weather modification - passes steam over vapour-forming compound then through supersonic nozzle

12/26,TI/16 (Item 16 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Derwent Info Ltd. All rts. reserv.
001281971

WPI Acc No: 1975-G5881W/197525
Appts for dispersing weather modification nuclei - uses gas blown through dusting chamber and heated tube

12/26,TI/17 (Item 1 from file: 344)
DIALOG(R)File 344:CHINESE PATENTS ABS
(c) 2002 EUROPEAN PATENT OFFICE. All rts. reserv.
METHOD FOR INPROVING DESERT AND RELIEVING PERSISTENT HIGH TEMP. BY ARTIFICIALLY-INFLUENCING WEATHER OF HOT AIR LAYER

12/26,TI/20 (Item 3 from file: 347)
DIALOG(R)File 347:JAPIO
(c) 2002 JPO & JAPIO. All rts. reserv.
01314024
PREVENTION OF SNOW DAMAGE AND COLD- WEATHER DAMAGE

17/26,TI/3 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Derwent Info Ltd. All rts. reserv.
012087380
WPI Acc No: 1998-504291/199843
Rocket for cloud effecting - whose breaking cumulative charge has certain length and is limited at both ends with cumulative notches

17/26,TI/4 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Derwent Info Ltd. All rts. reserv.
011933504
WPI Acc No: 1998-350414/199831
Vehicle mounted hot air jet system for use against snow and ice - has nozzles supplied with air from engine compartment and heated by electrical resistors while nozzles deliver jets of air towards vehicle tyres

17/26,TI/5 (Item 5 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Derwent Info Ltd. All rts. reserv.
011491012
WPI Acc No: 1997-468917/199743
Mobile rocket launching unit for hail storms prevention - has each of the rocket charges fitted with electronic timing units, and starting device has horizontal and vertical servo-drives

17/26,TI/6 (Item 6 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Derwent Info Ltd. All rts. reserv.
011233266
WPI Acc No: 1997-211169/199719
Hail cloud treatment to prevent hail storm damage - uses aircraft with on-board systems to observe, measure and treat feeder clouds

17/26,TI/7 (Item 7 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Derwent Info Ltd. All rts. reserv.
010769706
WPI Acc No: 1996-266660/199627
Head part of rocket to prevent from stones - has jacket made as freely

connected rings, each one with at least one opening

17/26,TI/8 (Item 8 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Derwent Info Ltd. All rts. reserv.
010409288
WPI Acc No: 1995-310634/199540
Anti-hail storm shock wave generator or cannon for preventing crop damage - has combustion control system including pressure transducer for detecting whether explosion occurs in chamber, and adds extra fuel when combustion is weak

17/26,TI/10 (Item 10 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Derwent Info Ltd. All rts. reserv.
010321286
WPI Acc No: 1995-222559/199529
Unit for liq. coolant interaction with clouds and fog - has liq. coolant chambers with bottles having atomiser

17/26,TI/13 (Item 13 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Derwent Info Ltd. All rts. reserv.
009720286
WPI Acc No: 1994-000136/199401
Method for water-logging prevention - uses artificial rain to disperse cloud cluster before rain storm is formed, to control rainfall in unit time NoAbstract

17/26,TI/15 (Item 15 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Derwent Info Ltd. All rts. reserv.
003280922
WPI Acc No: 1982-C8931E/198211
Rain-making remotely controlled vehicle mounted appts - for modifies energy of environment by radio controlled probes which are sensitive to storm conditions

17/26,TI/16 (Item 16 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Derwent Info Ltd. All rts. reserv.
001561491
WPI Acc No: 1976-009661/197613
Inducing rain from storm clouds - by applying positive or negative high voltage charge to them from antenna

17/26,TI/18 (Item 2 from file: 344)
DIALOG(R)File 344:CHINESE PATENTS ABS
(c) 2002 EUROPEAN PATENT OFFICE. All rts. reserv.
METHOD FOR WATERLOGGING PREVENTION

17/6/1 (Item 1 from file: 29)
106357 MGA35070589
Wave hindcasts and measurements: Bass Strait.

23/6/1 (Item 1 from file: 2)

5940441 INSPEC Abstract Number: A9814-9260-037
Title: Satellite-derived latent heating distribution and environmental influences in Hurricane Opal (1995)
Publication Date: May 1998
Copyright 1998, IEE

23/6/2 (Item 2 from file: 2)
5810230 INSPEC Abstract Number: A9805-9260-062
Title: A numerical study of the along-line variability of a frontal squall line during PRE- STORM
Publication Date: Oct. 1997
Copyright 1998, IEE

23/6/3 (Item 3 from file: 2)
5350621 INSPEC Abstract Number: A9619-9630G-001
Title: Orographic control of storm zones on Mars
Publication Date: 4 April 1996
Copyright 1996, IEE

23/6/4 (Item 4 from file: 2)
5300075 INSPEC Abstract Number: 4, A9615-9260-0
Title: Heat, moisture, and momentum budgets of isolated deep midlatitude and tropical convective clouds as diagnosed from three-dimensional model output. I. Control experiments
Publication Date: 115 Dec. 19
Copyright 1996, IEE

23/6/5 (Item 5 from file: 2)
5081616 INSPEC Abstract Number: A9522-9260-012
Title: Climatological aspects of mesoscale cyclogenesis over the Ross Sea and Ross Ice Shelf regions of Antarctica
Publication Date: Nov. 1994
Copyright 1995, IEE

23/6/6 (Item 6 from file: 2)
4886917 INSPEC Abstract Number: A9506-9260-021
Title: Monte Carlo simulations of explosive cyclogenesis
Publication Date: July 1994
Copyright 1995, IEE

23/6/7 (Item 7 from file: 2)
4663744 INSPEC Abstract Number: A9411-9260-184
Title: Calms and storms of the Southern Oceans
Publication Date: 1993

23/6/8 (Item 1 from file: 6)
0616962 NTIS Accession Number: AD-807 381/9/XAB
Experiments in Numerical Forecasting of Tropical Storm Movement (Master's thesis)
Oct 66

23/6/9 (Item 2 from file: 6)
0137740 NTIS Accession Number: AD-661 834/XAB
Power Spectra of Bottom Pressure Fluctuations in the Nearshore Gulf of Mexico During 1962 and 1963
Nov 67

23/6/10 (Item 1 from file: 28)
1708372 98-08372
Preparing for the future: Water for a growing population

23/6/11 (Item 1 from file: 29)
0286788 MGA51020489
Heat, moisture, and momentum budgets of isolated deep midlatitude and tropical convective clouds as diagnosed from three-dimensional model output. Part II: Sensitivity to ice phase and small changes in ambient shear strength and low-level moisture supply
1999

23/6/12 (Item 2 from file: 29)
0267933 MGA49060184
Mineralogy of atmospheric microparticles deposited along the Greenland Ice Core Project ice core
1997

23/6/13 (Item 1 from file: 34)
06139201 Genuine Article#: XX405 Number of References: 42
Title: Objective identification of cyclones and their circulation intensity, and climatology (ABSTRACT AVAILABLE)
Publication date: 19970900

23/6/14 (Item 1 from file: 44)
00692689 ASFA Accession Number: 4674281
The role of parametric modelling in the study of sea level extremes
Third european marine science and technology conference (MAST conference), Lisbon, 23-27 May 1998: Conference proceedings., 1999

23/6/15 (Item 1 from file: 62)
19971130
00867550
Mineralogy of atmospheric microparticles deposited along the Greenland Ice Core Project ice core

23/6/16 (Item 1 from file: 99)
1209652 H.W. WILSON RECORD NUMBER: BAST95005030
Heat, moisture, and momentum budgets of isolated deep midlatitude and tropical convective clouds as diagnosed from three-dimensional model output; control experiments
19941215

23/6/17 (Item 1 from file: 103)
03300566 EDB-92-063323
Title: Warm to cold polar climate transitions over the last 15,000 years: A paleoclimatology record from the raised beaches of northern Norway
Conference title: Annual meeting of the American Association of Petroleum Geologists (AAPG)
Publication Date: Mar 1991

25/6/1 (Item 1 from file: 2)
6980014 INSPEC Abstract Number: A2001-16-9260-139
Title: Evaporative moisture sources during a sequence of floods in the Mediterranean region

Publication Date: 15 May 2001
Copyright 2001, IEE

25/6/2 (Item 2 from file: 2)
6928451 INSPEC Abstract Number: A2001-12-9260-129
Title: The Advanced Regional Prediction System (ARPS)-a multi-scale nonhydrostatic atmospheric simulation and prediction model. I. Model dynamics and verification
Publication Date: 2000
Copyright 2001, IEE

25/6/3 (Item 3 from file: 2)
6723168 INSPEC Abstract Number: A2000-22-9430-018
Title: The nonlinear dynamics of space weather
Publication Date: 2000
Copyright 2000, FIZ Karlsruhe

25/6/4 (Item 4 from file: 2)
6711353 INSPEC Abstract Number: A2000-21-9385-002, B2000-11-7710B-001
Title: Tracking radar echoes by multiscale correlation: a nowcasting weather radar application
Publication Date: 1999
Copyright 2000, IEE

25/6/5 (Item 5 from file: 2)
6554853 INSPEC Abstract Number: A2000-10-9260-050
Title: Heat, moisture, and momentum budgets of isolated deep midlatitude and tropical convective clouds as diagnosed from three-dimensional model output. II. Sensitivity to ice phase and small changes in ambient shear strength and low-level moisture supply
Publication Date: 15 Oct. 1999
Copyright 2000, IEE

25/6/6 (Item 6 from file: 2)
6301155 INSPEC Abstract Number: A1999-17-9260-010
Title: An analysis of Hurricane Opal's forecast track errors using quasigeostrophic potential vorticity inversion
Publication Date: March 1999
Copyright 1999, IEE

25/6/8 (Item 8 from file: 2)
5845754 INSPEC Abstract Number: A9807-9240-015
Title: Sensitivity of spruce/moss boreal forest net ecosystem productivity to seasonal anomalies in weather
Publication Date: 26 Dec. 1997
Copyright 1998, IEE

25/6/10 (Item 10 from file: 2)
5654393 INSPEC Abstract Number: A9718-9260-024
Title: Characteristics of the Southern Hemisphere winter storm track with filtered and unfiltered data
Publication Date: 1 Feb. 1996
Copyright 1997, IEE

25/6/12 (Item 12 from file: 2)
5364108 INSPEC Abstract Number: A9620-9260-030

The organization of convection in the rainbands of Tropical Cyclone Laurence
Publication Date: May 1996
Copyright 1996, IEE

25/6/13 (Item 13 from file: 2)
5090952 INSPEC Abstract Number: A9523-9260-023, B9512-7650-005, C9512-3360L-028
Title: The Integrated Terminal Weather System Terminal Winds product
Publication Date: Fall 1994
Copyright 1995, IEE

25/6/14 (Item 14 from file: 2)
03355730 INSPEC Abstract Number: A89058158
Title: On the source of midlatitude low-frequency variability. I. Nonlinear equilibration of weather regimes
Publication Date: 15 Oct. 1988

25/6/16 (Item 1 from file: 6)
2219549 NTIS Accession Number: PB2002-100348/XAB
TCWF Algorithm Assessment-Memphis 2000
9 Jul 2001

25/6/17 (Item 2 from file: 6)
1621180 NTIS Accession Number: PB92-118678
Requirements for TDWR Scan Coverage Aloft
27 Jan 87

25/6/18 (Item 3 from file: 6)
1541025 NTIS Accession Number: N90-27214/7
Dust Clouds Kosa from the East Asian Dust Storms in 1982-1988 as Observed by the GMS Satellite
Nov 88

25/6/19 (Item 4 from file: 6)
1516050 NTIS Accession Number: N90-19394/7
PBL-Radiation Model for Application to Regional Numerical Weather Prediction
Dec 89

25/6/20 (Item 5 from file: 6)
1483073 NTIS Accession Number: PB90-138629
Automated Method for Representing, Tracking and Forecasting Rain Fields of Severe Storms by Conventional and Doppler Weather Radars
(Rept. for 30 Sep 86-29 Sep 89)
Sep 89

25/6/22 (Item 7 from file: 6)
1355292 NTIS Accession Number: AD-A187 810/7
Wind Field Derivatives: A New Diagnostic Tool for Analysis of Hurricanes by a Single Doppler Radar
10 Apr 87

25/6/23 (Item 8 from file: 6)
0368077 NTIS Accession Number: AD-755 920/XAB
Develop and Implement Techniques to Predict Solar Activity and Its Geophysical Effects
(Final rept. Nov 69-Oct 72)

Nov 72

25/6/24 (Item 9 from file: 6)
0280189 NTIS Accession Number: COM-71-00772/XAB
Tornado and Hurricane Thermo-Hydrodynamics
(Final rept)
30 Apr 71

25/6/25 (Item 10 from file: 6)
0168738 NTIS Accession Number: AD-678 886/XAB
Weather Radar Studies
(Final rept. 1 Jan 67-30 Jun 68)
Jul 68

25/6/26 (Item 1 from file: 8)
05803395
Title: On the detection of weather systems over the Antarctic interior in the FROST analyses
Publication Year: 1999

25/6/27 (Item 2 from file: 8)
05737270
Title: Verification of precipitation in weather systems: Determination of systematic errors
Publication Year: 2000

25/6/28 (Item 3 from file: 8)
03467121
Title: Automated method for representing, tracking and forecasting rain fields of severe storms by Doppler weather radars.
Publication Year: 1992

25/6/29 (Item 4 from file: 8)
03012934
Title: Multi-level contour method for tracking and forecasting rain fields of severe storms by weather radars.
Conference Title: Proceedings of the International Symposium on Hydraulics/Hydrology of Arid Lands and 1990 National Conference on Hydraulic Engineering
Publication Year: 1990

25/6/30 (Item 5 from file: 8)
01063791
Title: MODELING STORMWATER STORAGE/TREATMENT TRANSIENTS: THEORY
Publication Year: 1981

25/6/31 (Item 6 from file: 8)
00853221
APPLICATIONS OF A STEADY-STATE, ONE-DIMENSIONAL WATER QUALITY MODEL.
Publication Year: 1979

25/6/32 (Item 7 from file: 8)
00503859
Title: WAVE GROUP FORMATION AMONG STORM WAVES.
Publication Year: 1974

25/6/33 (Item 1 from file: 29)
0206301 MGA42090302
Radar observations of the Halifax storm, 19 May 1989
1990

25/6/36 (Item 3 from file: 34)
04908458 Genuine Article#: UQ916 Number of References: 37
Title: STORM -GENERATED, HUMMOCKY STRATIFICATION ON THE OUTER-SCOTIAN SHELF (Abstract Available)

25/6/37 (Item 4 from file: 34)
02865592 Genuine Article#: ML118 Number of References: 3
Title: MONTHLY TEMPERATURE AND PRECIPITATION FIELDS ON A STORM -FACING MOUNTAIN FRONT - STATISTICAL STRUCTURE AND EMPIRICAL PARAMETERIZATION
(Abstract Available)

25/6/38 (Item 1 from file: 44)
00362851 ASFA Accession Number: 2486579
Weather systems: A global view.
, 1990

25/6/39 (Item 2 from file: 44)
00103733 ASFA Accession Number: 0194849
Random Sea and Reliability of Offshore Foundations.
, 1981

25/6/41 (Item 2 from file: 62)
19961015
00719268
Prediction of magnetic storms by nonlinear models

25/6/42 (Item 1 from file: 96)
00258763 FLUIDEX NO: 0305854 SUBFILE: S
An automated method for representing, tracking and forecasting rain fields of severe storms by Doppler weather radars
J. Hydrology 132(1-4) pp 179-200., 1992

25/6/43 (Item 1 from file: 99)
1180946 H.W. WILSON RECORD NUMBER: BAST94049570
The life cycle of lightning and severe weather in a 3-4 June 1985 PRE-STORM mesoscale convective system
19940800

25/6/44 (Item 1 from file: 103)
04038793 BR-96-000338; EDB-96-122553
Droughts in Northeast Brazil: a phenomenon of self-organized criticality
Title: Proceedings of the 4. international congress of the Brazilian Society of Geophysics; 1. Conference of the Latin-American Geophysical Union. Expanded abstracts
Conference title: 4. International congress of the Brazilian Society of Geophysics; 1. Conference of the Latin-American Geophysical Union
Publication Date: 1995

25/6/45 (Item 2 from file: 103)
03442049 EDB-93-020925
Title: Geochemistry of the eastern Quabbin watersheds

Title: Impacts of acid deposition on watersheds of the Quabbin Reservoir
Publication Date: 1992

25/6/48 (Item 2 from file: 144)
14218406 PASCAL No.: 99-0419363
Modelling in-sewer changes in wastewater quality under aerobic conditions
Developments in urban drainage modelling : London, 21-24 September 1998
1999

25/6/49 (Item 3 from file: 144)
13547684 PASCAL No.: 98-0248786
Mechanisms of loess-sized quartz silt production and their relative effectiveness : laboratory simulations
1998

25/6/50 (Item 4 from file: 144)
08520891 PASCAL No.: 89-0069771
(Effects of atmogenic pollutant deposition on shallow and deeper groundwater in the Bunter Sandstone (Black Forest).)
1987

9/6/2
00704089 DA
TITLE: EXTREME RESPONSE OF FLEXIBLE RISERS
PUBLICATION DATE: 19000000
DATA SOURCE: British Maritime Technology

9/6/3
00695805 DA
TITLE: AN INTERCOMPARISON OF MEASURED WAVE GROUPING PARAMETERS DURING A STORM
PUBLICATION DATE: 19000000
DATA SOURCE: British Maritime Technology

9/6/4
00694853 DA
TITLE: RECENT WAVE HINDCASTING STUDIES USING THE WACCAS MODEL
PUBLICATION DATE: 19000000
DATA SOURCE: British Maritime Technology

9/6/5
00649219 DA
TITLE: HURRICANE WIND WAVES--A DISCRETE SPECTRAL MODEL
PUBLICATION DATE: 19860500
DATA SOURCE: Maritime Technical Information Facility

9/6/6
00396204 DA
TITLE: INVESTIGATION AND REPAIR OF TECTONIC AND STORM -RELATED ROAD DAMAGE NEAR THE GARLOCK FAULT, CALIFORNIA
PUBLICATION DATE: 19841100
DATA SOURCE: Transport and Road Research Laboratory

9/6/7
00139581 DA
TITLE: STOCHASTIC CONSIDERATIONS IN THUNDERSTORM MODELING
PUBLICATION DATE: 19760700

12/6/1 (Item 1 from file: 484)
05198515 SUPPLIER NUMBER: 84177688 (USE FORMAT 7 OR 9 FOR FULLTEXT)
The impact of unique meteorological phenomena detected by the Oklahoma Mesonet and ARS Micronet on automated quality control
Oct 2001
WORD COUNT: 6619

12/6/5 (Item 1 from file: 16)
06031333 Supplier Number: 53468473 (USE FORMAT 7 FOR FULLTEXT)
Predicting Disaster Is risk modeling, which claims to be able to predict the likelihood of natural disasters, science or wishful thinking?
Dec 21, 1998
Word Count: 4184

10/26/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Derwent Info Ltd. All rts. reserv.
010515006
WPI Acc No: 1996-011957/199602
Spherics signal analyser **monitoring atmospheric air mass movement** for weather forecasting - has spheric signal input with fuzzy-logic processor with defuzzification circuit, to evaluate characteristics e.g. frequency and amplitude spread, initial amplitude and attack rate

11/26/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Derwent Info Ltd. All rts. reserv.
012623838
WPI Acc No: 1999-429942/199936
Method predicting organised storm 's motion by receiving several weather radar images each representing organised storm during period of time and applying image filters to images with given aspect ratio

11/26/4 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Derwent Info Ltd. All rts. reserv.
010259951
WPI Acc No: 1995-161206/199521
Airborne **storm monitoring instrumentation** - has signals developed by two H-field aerials picked up by miniature RF transformers to integrate signals and extract H-field current component

10/6/2 (Item 2 from file: 348)
01080217
AIRCRAFT WEATHER INFORMATION SYSTEM

10/6/11 (Item 2 from file: 349)
00805333 **Image available**
A METHOD FOR ALERTING USERS OF WEATHER PHENOMENA
Publication Year: 2001

10/6/12 (Item 3 from file: 349)
00778001 **Image available**
A SYSTEM FOR STATISTICAL STORM SURGE PREDICTION
Publication Year: 2001

10/6/14 (Item 5 from file: 349)
00498832 **Image available**
METHOD AND APPARATUS FOR TRACKING OF ORGANIZED STORMS
Publication Year: 1999

10/6/15 (Item 6 from file: 349)
00472212 **Image available**
METHOD AND APPARATUS FOR OXIDIZING NO TO NO2 AND APPARATUS AND METHOD FOR GENERATING OZONE
Publication Year: 1999

10/6/25 (Item 16 from file: 349)
00113442 **Image available**
METHOD AND SIGNAL PROCESSOR FOR FREQUENCY ANALYSIS OF TIME DOMAIN SIGNALS
Publication Year: 1983

6/6/1 (Item 1 from file: 144)
15084141 PASCAL No.: 01-0243748
Soil CO SUB 2 dynamics, acidification, and chemical weathering in a temperate forest with experimental CO SUB 2 enrichment
2001

6/6/5 (Item 5 from file: 34)
09923326 Genuine Article#: 465EY Number of References: 13
Title: A rudimentary mechanistic model for soil formation and landscape development II. A two-dimensional model incorporating chemical weathering (ABSTRACT AVAILABLE)
Publication date: 20010900

6/6/7 (Item 7 from file: 34)
09526932 Genuine Article#: 414YG Number of References: 51
Title: An osmium isotope excursion associated with the late Paleocene thermal maximum: Evidence of intensified chemical weathering
Publication date: 20010400

6/6/10 (Item 10 from file: 34)
08835699 Genuine Article#: 334HX Number of References: 198
Title: Chemical , weathering , atmospheric CO2, and climate
Publication date: 20000000

6/6/11 (Item 11 from file: 34)
08526573 Genuine Article#: 296RC Number of References: 18
Title: Weathering processes in a lignite mine spoil treated with a CaCo3-rich waste slurry under two moisture programmes
Publication date: 20000400

6/6/12 (Item 12 from file: 8)
08510818
Title: Satellite image analysis and processing tools to be used in air-pollution forecast and simulation systems
Publication Year: 2000

6/6/13 (Item 13 from file: 94)
04925510 JICST ACCESSION NUMBER: 01A0457573 FILE SEGMENT: JICST-E
Chemical Weathering and Shear Characteristics of Neogene Mudstone from

Landslides in the Higashikubiki Area, Niigata Prefecture., 2000

6/6/18 (Item 18 from file: 94)
04215908 JICST ACCESSION NUMBER: 99A0830161 FILE SEGMENT: JICST-E
Effect of Hydrogeochemical Properties of Watersheds on Inland Water Acidification. Comparison of Acid-neutralization Due to Chemical Weathering between Acidified and Non-acidified Watersheds., 1999

6/6/22 (Item 22 from file: 34)
06850332 Genuine Article#: ZW785 Number of References: 9
Title: Geochemical studies on the intensity of chemical weathering in Luochuan loess-paleosol sequence, China (ABSTRACT AVAILABLE)
Publication date: 19980600

6/6/23 (Item 23 from file: 34)
06593357 Genuine Article#: ZD345 Number of References: 24
Title: The classification of chemical weathering of basic igneous rocks with respect to mineralogical composition and pedogeochemical conditions (ABSTRACT AVAILABLE)
Publication date: 19980300

6/6/31 (Item 31 from file: 144)
12816217 PASCAL No.: 97-0032579
Real time control for minimizing effluent concentrations during storm water events
Water quality international '96 : Singapore, 23-28 June 1996. Part 2: Wet weather pollution control ; sewerage design, operation and maintenance ; instrumentation, control and automation ; design, operation and maintenance of large wastewater treatment plants ; design, operation and maintenance of small wastewater treatment plants ; sludge management ; cross-media pollution and volatile organic emissions
1996

6/6/33 (Item 33 from file: 144)
12625808 PASCAL No.: 96-0318547
A tentative classification of paleoweathering formations based on geomorphological criteria
1996

6/6/34 (Item 34 from file: 34)
05352317 Genuine Article#: VR951 Number of References: 30
Title: PROMOTION OF CHEMICAL - WEATHERING BY HIGHER-PLANTS - FIELD OBSERVATIONS ON HAWAIIAN BASALTS (Abstract Available)

6/6/40 (Item 40 from file: 34)
04061231 Genuine Article#: RB229 Number of References: 149
Title: DIGITAL PROCESSING OF BACKSCATTER ELECTRON IMAGERY - A MICROSCOPIC APPROACH TO QUANTIFYING CHEMICAL - WEATHERING (Abstract Available)

6/6/41 (Item 41 from file: 34)
04051438 Genuine Article#: QK958 Number of References: 75
Title: HEAVY MINERAL RESPONSE TO THE PROGRADATION OF AN ALLUVIAL-FAN - IMPLICATIONS CONCERNING UNROOFING OF SOURCE AREA, CHEMICAL - WEATHERING AND PALAEO-RELIEF (UPPER CRETACEOUS PARKSTEIN FAN COMPLEX, SE GERMANY) (Abstract Available)

6/6/44 (Item 44 from file: 144)
11808410 PASCAL No.: 94-0691397
Antarctic subtropical humid episode at the Paleocene-Eocene boundary; clay-mineral evidence
1994-03

6/6/47 (Item 47 from file: 34)
03114378 Genuine Article#: NE736 Number of References: 38
Title: AN EXPERIMENTAL APPROACH TO THE SEQUENCE OF THE STABILITY OF ROCK-FORMING MINERALS TOWARDS CHEMICAL - WEATHERING (Abstract Available)

6/6/50 (Item 50 from file: 144)
11417636 PASCAL No.: 94-0248625
Chemical alteration trends, fluid inclusion patterns and stable isotope compositions in the plutonic sequence of the Troodos ophiolite, Cyprus
1993

6/6/51 (Item 51 from file: 144)
11177108 PASCAL No.: 93-0686748
Carazterizaci omicron n isot omicron pica y analisis de los procesos de degradaci omicron n de los materiales carbonatados de la Cueva de Nerja. Estudio preliminar
Geologia de la Cueva de Nerja Trabajos sobre la Cueva de Nerja
1993

6/6/53 (Item 53 from file: 144)
11103458 PASCAL No.: 93-0610481
Weathering and regolith properties at an earthflow site
1993

6/6/54 (Item 54 from file: 144)
11071741 PASCAL No.: 93-0578751
Metasomatism during subduction: products and possible paths in the Catalina Schist, California
1993

6/6/55 (Item 55 from file: 144)
10994447 PASCAL No.: 93-0503952
Synchronous changes in seawater strontium isotope composition and global climate
1993

6/6/56 (Item 56 from file: 144)
10788167 PASCAL No.: 93-0297521
Unusual geochemistry of hydrothermal vents on submarine arc volcanoes: Kasuga Seamounts, Northern Mariana Arc
1993

6/6/60 (Item 60 from file: 144)
10489533 PASCAL No.: 92-0693027
Soluble aluminum silicates; stoichiometry, stability , and implications for environmental geochemistry
1992-06-19

6/6/61 (Item 61 from file: 144)
10374343 PASCAL No.: 92-0577805
Tectonic forcing of late Cenozoic climate
1992

6/6/63 (Item 63 from file: 144)
10436990 PASCAL No.: 92-0640472
Experimental study of the stability of primary silicates under a periodically leaching regime of soils
1991

6/6/71 (Item 71 from file: 144)
10200645 PASCAL No.: 92-0406547
Distribution of marine salts along the West Coast of Ross Island, Antarctica, based on isotopic compositions of strontium and sulfur
Weathering; its products and deposits
1989

6/6/72 (Item 72 from file: 144)
09348087 PASCAL No.: 91-0138465
Estudio mineralogico de un hormigon antiguo
(Etude mineralogique d'un beton ancien)
1989

6/6/74 (Item 74 from file: 144)
08251554 PASCAL No.: 88-0252017
Geochemical and isotopic studies of bauxitization in the Tatun volcanic area, Northern Taiwan
(Etude geochimique et isotopique de la bauxitisation dans la region volcanique Tatun, Taiwan Nord)
1988

6/6/75 (Item 75 from file: 6)
1435025 NTIS Accession Number: N89-18300/8
Sulfide Mineralization: Its Role in Chemical Weathering of Mars
1988

6/6/76 (Item 76 from file: 94)
00802682 JICST ACCESSION NUMBER: 89A0004120 FILE SEGMENT: JICST-E
Chemical weathering and engineering properties of granitic residual soils., 1988

6/6/77 (Item 77 from file: 6)
1401521 NTIS Accession Number: DE88753865
Mechanism of Chemical Weathering of Mudstone. Weathering under the Natural Condition and Slope Stability
Dec 87

6/6/78 (Item 78 from file: 6)
1371716 NTIS Accession Number: N88-19862/7
Quality Control of Upper Air Conventional Data (Temp and Pilot)
Jul 87

6/6/79 (Item 79 from file: 94)
00582590 JICST ACCESSION NUMBER: 88A0197840 FILE SEGMENT: JICST-E
Chemical weathering rate in the Yokoo area, the Rokko Mountains., 1987

6/6/81 (Item 81 from file: 8)
02249848
Title: ATTITUDE CONTROL SYSTEM OF POLAR-ORBITAL METEOROLOGICAL SATELLITE.
Conference Title: Automatic Control in Space 1985, Proceedings of the Tenth IFAC Symposium.
Publication Year: 1986

6/6/84 (Item 84 from file: 144)
08476623 PASCAL No.: 89-0025390
Prediction of some weathering trends of plutonic and volcanic rocks based on thermodynamic and kinetic considerations
1984-07

6/6/85 (Item 85 from file: 144)
07769952 PASCAL No.: 87-0249594
Contribuicao para a quantificacao da alterabilidade dos minerais na sedimentogenese
(Contribution pour la quantification de l'alterabilite des minerais et genese sedimentaire)
1984

6/6/86 (Item 86 from file: 144)
07176449 PASCAL No.: 86-0224698
On spinodal decomposition in Fe-free pyroxenes
(Sur la decomposition au point de rebroussement dans les pyroxenes sans fer)
1984-04

6/6/87 (Item 87 from file: 144)
05860272 PASCAL No.: 84-0361833
Procesos de alteracion, genesis y estabilidad mineral de suelos volcanicos. Volcan de Piedrabuena (Ciudad Real). III Mineralogia de las rocas, arenas y limos
(Processus d'alteration, genese et stabilite minerale des sols volcaniques. Volcan de Piedrabuena (Ciudad Real). III. Mineralogie des roches, sables et limons)
1983 publ. 1984

6/6/88 (Item 88 from file: 144)
05826416 PASCAL No.: 84-0327792
An experimental study of cryogenic factors affecting geological processes in placer formation
1983

6/6/91 (Item 91 from file: 6)
0840055 NTIS Accession Number: PB80-203243/XAB
A Procedure for Spraying Spruce Budworms in Maine during Stable Wind Conditions (Technical memo)
May 80

6/6/92 (Item 92 from file: 6)
0777048 NTIS Accession Number: AD-A071 131/7/XAB
The Guidance and Control of Helicopters and V/STOL Aircraft at Night and in Poor Visibility
May 79

6/6/94 (Item 94 from file: 144)
03865649 PASCAL No.: 75-0126060
RELEASE OF CRYSTAL CONSTITUENTS BY CHEMICAL WEATHERING OF SOME SOIL MINERALS
1975

6/6/96 (Item 96 from file: 6)
0444968 NTIS Accession Number: AD-779 502/4/XAB
Artificial Icing Tests UH-1H Helicopter. Part I
(Final rept. 17 Sep-29 Oct 73)
Jan 74

6/6/98 (Item 98 from file: 6)
0237852 NTIS Accession Number: AD-710 948/XAB
A Method for Determining a Conceptual Solution to Ensure 301
(Technical rept)
Jun 70

6/6/99 (Item 99 from file: 108)
00316010 A69-22778
All-weather operation for helicopters - Flight control systems for helicopters. (Helicopter all- weather flight control system, using autostabilization and artificial horizon)
PUBLICATION DATE: 196902

8/6/1 (Item 1 from file: 2)
DIALOG(R)File 2:(c) 2002 Institution of Electrical Engineers. All rts.reserv.
01192811 INSPEC Abstract Number: A78045257
Title: Chemical weathering on Mars. Thermodynamic stabilities of primary minerals (and their alteration products) from mafic igneous rocks
Publication Date: March 1978

8/6/5 (Item 1 from file: 144)
DIALOG(R)File 144:(c) 2002 INIST/CNRS. All rts. reserv.
15084141 PASCAL No.: 01-0243748
Soil CO SUB 2 dynamics, acidification, and chemical weathering in a temperate forest with experimental CO SUB 2 enrichment
2001

8/6/6 (Item 2 from file: 144)
DIALOG(R)File 144:(c) 2002 INIST/CNRS. All rts. reserv.
05826416 PASCAL No.: 84-0327792
An experimental study of cryogenic factors affecting geological processes in placer formation
1983

4/6/1 (Item 1 from file: 40)
DIALOG(R)File 40:
00283338 ENVIROLINE NUMBER: 75-07372
Surge Facility for Wet and Dry Weather Flow Control
Nov 74

16/6/1 (Item 1 from file: 40)
DIALOG(R)File 40:
00577261 ENVIROLINE NUMBER: 00-00836
Large-Scale Shoreline Response to Storms and Fair Weather
Jun 21-23, 99

16/6/2 (Item 2 from file: 40)
DIALOG(R)File 40:
00569364 ENVIROLINE NUMBER: 99-10609
Cyclone Warnings
Apr-Jun 99

16/6/3 (Item 3 from file: 40)
DIALOG(R)File 40:
00444224 ENVIROLINE NUMBER: 97-00444
The Effects of Climate Change Due to Global Warming on River Flows in Great Britain
Sep 96

16/6/4 (Item 4 from file: 40)
DIALOG(R)File 40:
00415873 ENVIROLINE NUMBER: 93-11858
Runoff Sensitivity to Temporal and Spatial Rainfall Variability at Runoff Plane and Small Basin Scales
Aug 93

16/6/5 (Item 5 from file: 40)
DIALOG(R)File 40:
00381851 ENVIROLINE NUMBER: 91-00956
Stream Sediment Loading and Rainfall-a Look at the Issue
May 90

16/6/6 (Item 6 from file: 40)
DIALOG(R)File 40:
00315192 ENVIROLINE NUMBER: 80-01888
Climate Variability and the Design and Operation of Water Resource Systems
Feb 12-23, 79

16/6/7 (Item 7 from file: 40)
DIALOG(R)File 40:
00283338 ENVIROLINE NUMBER: 75-07372
Surge Facility for Wet and Dry Weather Flow Control
Nov 74

File 344:Chinese Patents Abs Aug 1985-2002/Aug
(c) 2002 European Patent Office
File 347:JAPIO Oct 1976-2002/May(Updated 020903)
(c) 2002 JPO & JAPIO
File 350:Derwent WPIX 1963-2002/UD,UM &UP=200258
(c) 2002 Thomson Derwent
File 371:French Patents 1961-2002/BOPI 200209
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Set	Items	Description
S1	79	BROMOTRIFLUOROMETHANE OR BROMOFLUOROFORM OR CARBON()(BROMIDE OR MONOBROMIDE)()(FLUORIDE OR TRIFLUORIDE) OR MONOBROMOTRIFLUOROMETHANE
S2	63	(PERFLUOROMETHYL OR TRIFLUOROMETHYL)()BROMIDE OR TRIFLUOROBROMOMETHANE OR TRIFLUOROMONOBROMOMETHANE OR IODOTRIFLUOROMETHANE
S3	374	MONOIODOTRIFLUOROMETHANE OR TRIFLUOROIODOMETHANE OR (PERFLUOROMETHYL OR TRIFLUOROMETHYL)()IODIDE OR CHLOROTETRAFLUOROETHANE
S4	1310	TETRAFLUOROCHLOROETHANE OR TETRAFLUOROMONOCHLOROETHANE OR CHLORODIFLUOROMETHANE OR DIFLUOROMONOCHLOROMETHANE OR DIFLUOROCHLOROMETHANE
S5	504	MONOCHLORODIFLUOROMETHANE OR BISTRIFLUOROMETHYLMETHANE OR APAFLURANE OR OCTAFLUOROPROPANE OR PERFLUOROPROPANE OR DECAFLUOROBUTANE
S6	4395	PERFLUOROBUTANE OR PENTAFLUOROETHANE OR CARBON()FLUORIDE OR OCTAFLUOROCYCLOBUTANE OR PERFLUOROCYCLOBUTANE OR DIFLUOROMETHANE OR METHYLENE()DIFLUORIDE
S7	3016	PENTAFLUOROETHANE OR ETHYL()HEXAFLUORIDE OR HEXAFLUOROETHANE OR PERFLUOROETHANE OR (CARBON OR METHYL)()TRIFLUORIDE OR FLUOROFORM OR TRIFLUOROMETHANE
S8	624	HCFC()(22 OR 236FA OR 236()FA OR 125 OR 23) OR HCFC22 OR HFC()(236FA OR 236()FA OR 227 OR 227EA OR 134A OR 134 OR 32 OR 125 OR 218 OR 23)
S9	133	HFC32 OR HFC125 OR HFC227 OR HFC227?? ? OR HFC134? ? OR FC()(218 OR 3110 OR 318 OR 116 OR 22) OR FC218 OR FC3110 OR FC318 OR FC116 OR HFC23
S10	60	HCFC125 OR FC1160 OR FC23 OR HCFC23 OR HFC218 OR HFC236FA OR FC25 OR FC13B1 OR FC22 OR FC()(1160 OR 23 OR 13B1 OR 13()B1 OR 25 OR 32)
S11	55789	ZEOLITE? ? OR ALUMINOSILICATE? ? OR SILICA??? ?(N)(ALUMINA OR ALUMINO) OR ANALCIME? ? OR WAIRAKITE? ? OR POLLUCITE? ? OR SODALITE? ?
S12	4530	LINDE? ?()A OR (ZK OR ZSM)()5 OR ZK5 OR ZSM5 OR FAUJASITE? ? OR CHABAZITE? ? OR CHABASITE? ? OR GMELINITE? ? OR ERIONITE? ? OR OFFRETITE? ?
S13	132	LEVYNITE? ? OR NATROLITE? ? OR SCOLECITE? ? OR MESOLITE? ? OR EDINGTONITE? ? OR THOMSONITE? ? OR GONNARDITE? ? OR PHILLIPSITE? ? OR HARMOTOME? ?
S14	2664	GISMONDINE? ? OR GARRONITE? ? OR MORDENITE? ? OR DACHIARDITE? ? OR ACHIARDITE? ? OR HEULANDITE? ? OR BREWSTERITE? ? OR EPISTILBITE? ?
S15	941	YUGAWARALITE? ? OR LAUMONTITE? ? OR FERRIERITE? ? OR PAULINGITE? ? OR STILBITE? ? OR ANALCITE? ? OR CLINOPTILOLITE? ? OR CYMRITE? ?
S16	223	MOLECULAR()SIEVE?(3W)(3A OR 4A OR (3 OR 4)()A)
S17	7705	MOLECULAR()SIEVE? ?
S18	4524	FIRE(1W)EXTINGUISHER?
S19	67946	DESICCA? OR DRYING()AGENT? OR DEHYDRAT?
S20	1410	WATERFREE OR WATERLESS
S21	2274606	WATER OR H2O OR MOIST? OR WET???? ? OR DAMP???? ? OR AQ? ? OR AQUEOUS
S22	247150	S21(3N)(REMOV? OR REDUC? OR ELIMIN? OR REDN? ? OR DECRE? OR DIMINI? OR CONTROL? OR LOWER? OR LESSEN? OR RID OR RIDS OR MINIMI? OR LIMIT?)
S23	95467	S21(3N)(ABSORB? OR ABSORP? OR ADSORB? OR ADSORP? OR CHEMISORP? OR CHEMISORB? OR SORP???? ? OR SORB???? ? OR DESORP? OR DESORB? OR PERSORP? OR PERSORB?)

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S24     643000   DRYER? OR DRIES OR DRIED OR DRYING OR DRIER? OR DRY
S25        162   MOLECULAR(1W)(FILTR? OR FILTER? OR MICROFILT? OR ULTRAFILT-
                 ?)
S26        134   (S1:S10 OR FC32) AND (S11:S17 OR S25)
S27          2   S26 AND S18
S28       1574   (S11:S17 OR S25)(4N)(S24 OR DRYED OR DRYS)
S29         45   S26 AND (S28 OR S19:S20 OR S22:S23)
S30      30659   IC=A62C OR IC=A62D
S31          0   S29 AND S30
S32         35   S29 NOT (TUMOR? OR TUMOUR? OR ANTITUMO? OR BATTERIES OR ET-
                 CH? OR LIGAND?/TI OR OVULAT? OR BOOKS OR FUNGICIDE?)
S33         11   S18 AND (S11:S17 OR S25)
S34          4   S26 AND S30
S35         48   S27 OR S32:S34
?t35/9/all
```

35/9/1 (Item 1 from file: 347)

DIALOG(R)File 347:JAPIO

06393468

DESICCANT FOR REFRIGERATION CYCLE AND ITS PRODUCTION

PUB. NO.: 11-335117 [JP 11335117 A]
PUBLISHED: December 07, 1999 (19991207)
INVENTOR(s): AGAWA MASAHIKO
MUKAI MAMORU
APPLICANT(s): TOSOH CORP
APPL. NO.: 10-143973 [JP 98143973]
FILED: May 26, 1998 (19980526)
INTL CLASS: C01B-039/14; B01J-020/18; C01B-039/18

ABSTRACT

PROBLEM TO BE SOLVED: To provide a **desiccant** for refrigeration cycle, having excellent **dehydration** performance as a **desiccant** for a refrigerant for refrigeration cycle containing **HFC - 32** , capable of suppressing the generation of a fluorine compound caused by the decomposition of **HFC - 32** for a long period and widely applicable to various fluorocarbon refrigerants and provide its production process.

SOLUTION: This **desiccant** for refrigeration cycle is composed of a **zeolite** A containing at least Na and K as metallic cation and a high-purity kaolin clay and having a fluorine (F) ion concentration of ≤2.0×103 ppm in the **desiccant** after the shield tube test using a CFCs substitute comprising a hydrofluorocarbon(HFC) at least containing **difluoromethane** (**HFC - 32**). The invention also relates to its production process.

35/9/2 (Item 2 from file: 347)

DIALOG(R)File 347:JAPIO

05536570

MIXED COOLING MEDIUM AND COOLING DEVICE USING THE SAME

PUB. NO.: 09-151370 [JP 9151370 A]
PUBLISHED: June 10, 1997 (19970610)
INVENTOR(s): FUKUSHIMA MASATO
OTOSHI YUKIO
APPLICANT(s): ASAHI GLASS CO LTD [000004] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 07-312763 [JP 95312763]
FILED: November 30, 1995 (19951130)
INTL CLASS: [6] C09K-005/04; C07C-019/08; C10M-105/32; F25B-001/00; F25B-013/00; C10N-030/00; C10N-040/30

JAPIO CLASS: 13.9 (INORGANIC CHEMISTRY -- Other); 14.1 (ORGANIC CHEMISTRY -- Organic Compounds); 14.6 (ORGANIC CHEMISTRY -- Liquid Fuel, Oils & Fats); 22.2 (MACHINERY -- Mechanism & Transmission); 24.2 (CHEMICAL ENGINEERING -- Heating & Cooling)

ABSTRACT

PROBLEM TO BE SOLVED: To obtain a mixed cooling medium excellent in cooling medium performance, capable of being used without largely changing a conventional cooling device, always exhibiting nonflammability on the leakage of the cooling medium from the device, and not causing the large change of the performance when used for a long period.

SOLUTION: This mixed cooling medium comprises 47-48wt.% of **difluoromethane** and 53-52wt.% of **pentafluoroethane** . The cooling device uses this mixed cooling medium, a **zeolite** -based **drying agent** and a lubricant compatible with the mixed medium.

35/9/3 (Item 3 from file: 347)

05284862 **Image available**

FREEZER DEVICE

PUB. NO.: 08-240362 [JP 8240362 A]
PUBLISHED: September 17, 1996 (19960917)
INVENTOR(s): IIZUKA TADASHI
NAKA REIJI
FUKUDA KATSUMI
TANAKA MAKOTO
HONMA KICHIJI
HATAKE HIROAKI
KOSOKABE HIROKATSU
NARIYOSHI KOUJI
IWATA HIROSHI
APPLICANT(s): HITACHI LTD [000510] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 08-031705 [JP 9631705]
FILED: February 20, 1996 (19960220)
INTL CLASS: [6] F25B-043/00; C09K-005/04; C10M-105/38; C10M-169/04; C10M-169/04; C10M-105/38; C10M-137/02; C10M-137/04; C10N-020/02; C10N-020/04; C10N-030/06; C10N-040/30
JAPIO CLASS: 24.2 (CHEMICAL ENGINEERING -- Heating & Cooling); 13.9 (INORGANIC CHEMISTRY -- Other); 14.6 (ORGANIC CHEMISTRY -- Liquid Fuel, Oils & Fats); 22.2 (MACHINERY -- Mechanism & Transmission)

ABSTRACT

PURPOSE: To provide a freezer device holding refrigerating machine oil of a high compatibility adapted to refrigerant having as its major component refrigerant of **carbon fluoride** not containing chlorine and a drying device which is effective for **removing moisture** .

CONSTITUTION: This freezer device is applied for a freezing cycle and comprised of at least a compressor 40, a condenser 41, an expansion mechanism 42 and an evaporator 43. The freezing cycle is provided with a drying device 45 filled with specific **drying agent** . As its refrigerant, refrigerant of **carbon fluoride** with its critical temperature of 40 deg.C or higher and containing no chlorine as the major component is employed and as refrigerating machine oil ester oil of fatty acid holding at least two ester couplings (-O-CO-) in the molecule with its viscosity of 2 to 70cSt at a temperature of 40 deg.C and 1 to 9cSt at a temperature of 100 deg.C is employed. As **drying agent** , it is preferable to use synthetic **zeolite** composed of silic acid and composite salt of alkaline metal aluminate with a fine hole diameter being 3.3 angstroms or less and a carbonic acid gas absorbing volume at a carbonic acid gas partial pressure

of 250mmHg at 25 deg.C being 1.0% or less.

35/9/4 (Item 4 from file: 347)
DIALOG(R)File 347:JAPIO

05250995
DESICCANT AND USE THEREOF

PUB. NO.: 08-206495 [JP 8206495 A]
PUBLISHED: August 13, 1996 (19960813)
INVENTOR(s): OGAWA NOBUHIRO
ITABASHI KEIJI
APPLICANT(s): TOSOH CORP [000330] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 07-017207 [JP 9517207]
FILED: February 03, 1995 (19950203)
INTL CLASS: [6] B01J-020/18
JAPIO CLASS: 13.9 (INORGANIC CHEMISTRY -- Other)

ABSTRACT

PURPOSE: To provide a novel **desiccant** which is particularly suitable for drying **difluoromethane** (**HFC32**).

CONSTITUTION: The **desiccant** comprises a **zeolite** containing at least cesium ion, as metal cation, or a **zeolite** containing at least cesium ion, as metal cation, and a binder for connecting the **zeolite** . A part of or the whole of material, which is dried by means of the **desiccant** , is a compound composed of fluorine, hydrogen, and carbon, or a compound composed of fluorine, hydrogen, chlorine, and carbon, particularly **difluoromethane** (**HFC32**), or a mixture containing at least **difluoromethane** (**HFC32**).

35/9/5 (Item 5 from file: 347)
DIALOG(R)File 347:JAPIO

05250994
DESICCANT AND USE OF **DESICCANT**

PUB. NO.: 08-206494 [JP 8206494 A]
PUBLISHED: August 13, 1996 (19960813)
INVENTOR(s): OGAWA NOBUHIRO
ITABASHI KEIJI
APPLICANT(s): TOSOH CORP [000330] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 07-017875 [JP 9517875]
FILED: February 06, 1995 (19950206)
INTL CLASS: [6] B01J-020/18; C07C-017/389; C07C-019/08
JAPIO CLASS: 13.9 (INORGANIC CHEMISTRY -- Other); 14.1 (ORGANIC CHEMISTRY -- Organic Compounds)

ABSTRACT

PURPOSE: To provide a novel **desiccant** which is particularly suitable for drying **HFC32** .

CONSTITUTION: The **desiccant** comprises a **zeolite** whose Si/Al ratio is in a range of 2 to 10, or a **zeolite** whose Si/Al ratio is in a range of 2 to 10 and a binder for connecting such **zeolite** , and in which a part or the whole of exchange ions comprises potassium ions, rubidium ions or a mixture of these ions. A part or the whole of material, which is dried by means of the **desiccant** , is a compound of fluorine, hydrogen, and carbon or a compound of fluorine, hydrogen, chlorine, and carbon, and particularly **difluoromethane** (**HFC32**).

35/9/6 (Item 6 from file: 347)

DIALOG(R)File 347:JAPIO

05250993
DESICCANT AND ITS USE

PUB. NO.: 08-206493 [JP 8206493 A]
PUBLISHED: August 13, 1996 (19960813)
INVENTOR(s): OGAWA NOBUHIRO
ITABASHI KEIJI
APPLICANT(s): TOSOH CORP [000330] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 07-015973 [JP 9515973]
FILED: February 02, 1995 (19950202)
INTL CLASS: [6] B01J-020/18; C01B-039/00; C07C-017/389; C07C-019/08
JAPIO CLASS: 13.9 (INORGANIC CHEMISTRY -- Other); 13.2 (INORGANIC CHEMISTRY -- Inorganic Compounds); 14.1 (ORGANIC CHEMISTRY -- Organic Compounds)

ABSTRACT

PURPOSE: To provide a novel **desiccant** which is suitable for drying a compound comprising fluorine, hydrogen, and carbon, prticularly such as **difluoromethane** (**HFC32**).

CONSTITUTION: The **desiccant** comprises P-type **zeolite** and/or HS-type **zeolite** , or P-type **zeolite** and/or HS-type **zeolite** and a binder for connecting such **zeolite** , and in which a part or the whole of **zeolite** is ion-exchanged by means of potassium ion and/or rubidium ion. The whole or part of material which is dried by means of the **desiccant** is a compound comprising fluorine, hydrogen, and carbon, or a compound comprising fluorine, hydrogen, chlorine, and carbon.

35/9/7 (Item 7 from file: 347)
DIALOG(R)File 347:JAPIO

05218299
DESICCATING AGENT AND MANUFACTURE AND USE THEREOF

PUB. NO.: 08-173799 [JP 8173799 A]
PUBLISHED: July 09, 1996 (19960709)
INVENTOR(s): OGAWA NOBUHIRO
AGAWA MASAHIKO
TSUZUKI KENJI
APPLICANT(s): TOSOH CORP [000330] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 07-029201 [JP 9529201]
FILED: February 17, 1995 (19950217)
INTL CLASS: [6] B01J-020/18; B01D-015/00; C01B-039/14; C07C-017/389; C07C-019/08; C09K-005/04
JAPIO CLASS: 13.9 (INORGANIC CHEMISTRY -- Other); 13.1 (INORGANIC CHEMISTRY -- Processing Operations); 13.2 (INORGANIC CHEMISTRY -- Inorganic Compounds); 14.1 (ORGANIC CHEMISTRY -- Organic Compounds)

ABSTRACT

PURPOSE: To provide a **desiccating** agent which **adsorb moisture** in large quanti ties and carbonic acid gas in small quantities and which is particularly suitable for drying **difluoromethane** refrigerant by specifying the quantity of **adsorption** of saturated **moisture** and that of saturated carbonic acid gas, in a **desiccating** agent containing A-type **zeolite** having Na and K as metal cations.

CONSTITUTION: In a **desiccating** agent containing A-type **zeolite** having Na and K as metal cations, it is specified that the quantity of **adsorption** of saturated **moisture** in a 25 deg.C/80% relative humidity environment is 0.5wt.% or more, and quantity of **adsorption** of saturated **moisture** in a 60 deg.C/80% relative humidity environment exceeds quantity of **adsorption**

of saturated **moisture** in a 25$0C/80% relative humidity environment. And quantity of adsorption of saturated carbonic acid gas at a temperature of 25 deg.C and partial pressure of carbonic acid gas of 250mmHg is 0.1wt.% or less, and initial rate of adsorption of carbonic acid gas at a temperature of 75 deg.C and partial pressure of carbonic acid gas of 400mmHg is 0.015wt.% per hour or less, and further molding density is 1.4g/cm(sup 3) or more, pressure strength 5.0kg or more, wear rate below 3.0%.

35/9/8 (Item 8 from file: 347)
DIALOG(R)File 347:JAPIO

05166408 **Image available**
HYDROFLUOROCARBON DRYER

PUB. NO.: 08-121908 [JP 8121908 A]
PUBLISHED: May 17, 1996 (19960517)
INVENTOR(s): KOMATSUBARA TAKEO
OKAJIMA MASAZO
OBOKATA YOSHINOBU
APPLICANT(s): SANYO ELECTRIC CO LTD [000188] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 06-278643 [JP 94278643]
FILED: October 19, 1994 (19941019)
INTL CLASS: [6] F25B-043/00
JAPIO CLASS: 24.2 (CHEMICAL ENGINEERING -- Heating & Cooling)

ABSTRACT

PURPOSE: To provide a dryer which is suitable to a refrigerator which uses HFC type fluorocarbon which has hardly fears to destroy an ozone layer.

CONSTITUTION: A synthetic **zeolite** -made absorbent 34 whose pore size is about 3 angstroms is mounted in a case 33 having a refrigerant inlet 31 and a refrigerant outlet 32. The innumerable synthetic **zeolite** pores fall to absorb **HFC - 134a** whose molecular size is 4.2 angstroms , which does not deteriorate the **moisture absorbing** property, even when it is in contact with **HFC - 134a** , and **absorbs** and **removes water** content mixed in the **HFC - 134a** with high efficiency.

35/9/9 (Item 9 from file: 347)
DIALOG(R)File 347:JAPIO

05012454
FREEZING CYCLE COMPOSITION AND REFRIGERATOR

PUB. NO.: 07-305054 [JP 7305054 A]
PUBLISHED: November 21, 1995 (19951121)
INVENTOR(s): USHIMARU SHIGEO
APPLICANT(s): TOSHIBA CORP [000307] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 07-051611 [JP 9551611]
FILED: March 10, 1995 (19950310)
INTL CLASS: [6] C09K-005/04; F25B-001/00; F25B-043/00
JAPIO CLASS: 13.9 (INORGANIC CHEMISTRY -- Other); 24.2 (CHEMICAL ENGINEERING -- Heating & Cooling)

ABSTRACT

PURPOSE: To obtain a composition for refrigeration cycle containing a hydrofluorocarbon, a refrigerator oil and a **desiccant** , thus it is capable of **adsorbing** and **removing moisture** efficiently without decomposition of the **desiccant** and occurrence of fine powder, further preventing chlorinated fluorocarbon substitutes from being decomposed.
CONSTITUTION: This composition comprises (A) a hydrofluorocarbon (preferably having a small size of molecule, particularly containing **difluoromethane**), (B) a refrigerator oil and (C) a **desiccant** of less

than 2.77wt.% **difluoromethane** adsorption according to the McBain method (preferably it is a sodium-potassium A type **zeolite** in which the sodium content is more than 6wt.%, the potassium content is more than 5wt.% where the total of Na+K is 13 to 20wt.%).

35/9/10 (Item 10 from file: 347)
DIALOG(R)File 347:JAPIO

04656068
DESICCATING AGENT FOR **HFC - 32** , HFC-152A

PUB. NO.: 06-327968 [JP 6327968 A]
PUBLISHED: November 29, 1994 (19941129)
INVENTOR(s): NOGUCHI YOSHITAKA
ADACHI SHIGERU
ABE MASAYUKI
TAKASHIMA SUEO
HASHIMOTO MASAYUKI
APPLICANT(s): UNION SHOWA KK [000000] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 05-142540 [JP 93142540]
FILED: May 24, 1993 (19930524)
INTL CLASS: [5] B01J-020/18; B01D-053/28
JAPIO CLASS: 13.9 (INORGANIC CHEMISTRY -- Other); 13.1 (INORGANIC CHEMISTRY -- Processing Operations)

ABSTRACT

PURPOSE: To practically use a **desiccating** agent for **HFC - 32** , HFC-152a by sticking SiO(sub 2) to a 3A type **zeolite** molded body prepared by exchanging a specific ratio of sodium ion for potassium ion, **dehydrating** and activating.

CONSTITUTION: The 3A type **zeolite** molded body prepared by exchanging 20-60% sodium ion for potassium ion by ion equivalent ratio is used. SiO(sub 2) is stuck to the **zeolite** molded body by dipping into an aqueous solution of one or more kinds of sodium silicate, potassium silicate. Next, the molded body is taken out from the aqueous solution and after **dehydrated** , is activated by heating or the like. Thus, the **desiccating** agent available for **removing moisture** in the **HFC - 32** , HFC-152a is obtained.

35/9/11 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

014345288 **Image available**
WPI Acc No: 2002-165991/200222
XRAM Acc No: C02-051378
XRPX Acc No: N02-126745
Refrigerant for refrigerating device, comprises hydrocarbon or flammable hydrocarbon fluoride **as main component and tetrahydrothiophene as odorant**
Patent Assignee: SANYO ELECTRIC CO LTD (SAOL); KAWAMURA M (KAWA-I); KOMATSUBARA T (KOMA-I); SAITOU T (SAIT-I); TAKAHASHI Y (TAKA-I)
Inventor: KAWAMURA M; KOMATSUBARA T; SAITO T; TAKAHASHI Y; SAITOU T
Number of Countries: 032 Number of Patents: 007
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 1176182	A1	20020130	EP 2001306372	A	20010725	200222	B
AU 200154338	A	20020131	AU 200154338	A	20010712	200222	
CA 2353430	A1	20020127	CA 2353430	A	20010723	200222	
US 20020035848	A1	20020328	US 2001908760	A	20010719	200225	
JP 2002038135	A	20020206	JP 2000227678	A	20000727	200226	
CN 1336409	A	20020220	CN 2001118148	A	20010518	200235	
KR 2002010086	A	20020202	KR 200145039	A	20010726	200254	

Priority Applications (No Type Date): JP 2000227678 A 20000727
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 1176182	A1	E	11	C09K-005/04	
Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR					
AU 200154338	A			C09K-005/04	
CA 2353430	A1	E		C09K-005/04	
US 20020035848	A1			F25B-043/00	
JP 2002038135	A		6	C09K-005/04	
CN 1336409	A			C09K-005/00	
KR 2002010086	A			C09K-005/04	

Abstract (Basic): EP 1176182 A1

NOVELTY - A refrigerant comprises a 1-4-carbon atom hydrocarbon or a flammable **hydrocarbon fluoride** derived by substituting hydrogen atoms of the hydrocarbon with fluorine atoms as a main component; and a tetrahydrothiophene as an odorant.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a refrigerating device comprising:

(a) a compressor, a heat-releasing device, an expansion mechanism, and an evaporator connected to form a refrigeration circuit, and

(b) a refrigerant disposed in the refrigeration circuit.

USE - For a refrigerating device.

ADVANTAGE - Tetrahydrothiophene (THT) has a unique offensive smell. It does not solidify when used in refrigerants. THT has good compatibility with the hydrocarbon or flammable **hydrocarbon fluoride** and refrigerating device oils. It does not react with materials, e.g., copper, which form the refrigerating circuit. Clogging of the refrigerating circuit due to insoluble products will not occur even after operation for a long period.

DESCRIPTION OF DRAWING(S) - The figure shows a refrigerating circuit of the invention.

pp; 11 DwgNo 1/1

Technology Focus:

TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preferred Composition: The refrigerant comprises 10 wt. ppm - 0.5 wt.% odorant. The purity of the hydrocarbon or flammable **hydrocarbon fluoride** is at least 99.0 vol.%. The content of unsaturated hydrocarbon is not more than 0.01 wt.% and the entire sulfur content is not more than 0.1 wt. ppm.

Preferred Materials: A refrigerating device oil in the compressor having a viscosity of 5-300 cSt (40 degreesC) includes a metal inactivating agent, and moisture- and acid trapping agents, antioxidants, and extreme pressure additives.

CHEMICAL ENGINEERING - Preferred Components: The refrigerating circuit includes a drying device. Residual oxygen in the refrigerating circuit is not more than 0.1 vol.% of an internal capacity of the refrigerating circuit. A residual moisture content in the refrigerating circuit is not more than 500 wt. ppm with respect to a total of refrigerant and refrigerating device oil.

INORGANIC CHEMISTRY - Preferred Material: The **drying** device includes a synthetic **zeolite** having an effective diameter of 3-6 Angstrom.

Preferred Material: The refrigerating circuit is made of copper or copper alloy

Extension Abstract:

EXAMPLE - A refrigerating device comprised isobutane refrigerant (99.7 vol.% purity, 0.001 wt.% unsaturated hydrocarbon, 0.05 wt. ppm sulfur), tetrahydrothiophene (0.1 wt.% with respect to the refrigerant), paraffin oil as refrigerating device oil (15 cSt at 40degreesC; volume specific resistivity of 1015 OMEGA.cm), refrigerating device oil additives, and synthetic **zeolite** as **drying agent** (effective diameter of 3 Angstrom). The refrigerating device oil additives comprised (in wt.% with respect to refrigerating device oil) silicone defoaming agent (10 ppm), ditertiary butylparacresol as antioxidant (0.3), epoxy compound as moisture- and/or acid-trapping agent (0.25), tricresylphosphate as extreme pressure additive (1), and benzotriazole as copper inactivating agent (5 ppm).

Title Terms: REFRIGERATE; REFRIGERATE; DEVICE; COMPRISE; HYDROCARBON; FLAMMABLE; HYDROCARBON; FLUORIDE; MAIN; COMPONENT; ODOUR
Derwent Class: E13; G04; H08; J07; J08; Q75; X27
International Patent Class (Main): C09K-005/00; C09K-005/04; F25B-043/00
International Patent Class (Additional): F25B-001/00; F25B-001/04; F25B-049/02
File Segment: CPI; EPI; EngPI
Manual Codes (CPI/A-N): E07-B01; E10-H04A; E10-J02A2; E10-J02C4; E10-J02D1; E10-J02D2; G04-B01; H08-D09; J07-A01; J07-A08; J08-D06
Manual Codes (EPI/S-X): X27-F02A
Chemical Fragment Codes (M3):
01 F000 F213 M280 M320 M413 M424 M510 M521 M530 M540 M740 M782 M904 M905 M910 Q337 Q433 Q612 R013 R00897-K R00897-M
02 M210 M214 M232 M320 M416 M424 M610 M620 M740 M782 M904 M905 M910 Q337 Q417 Q433 R013 R00355-K R00355-M
03 A100 A200 A313 A940 B114 B701 B712 B720 B831 C108 C802 C803 C804 C805 C807 M411 M424 M740 M782 M905 Q337 Q433 Q434 R013 R032 R036 RA00D1-K RA00D1-M
04 M210 M211 M212 M213 M214 M215 M216 M231 M232 M233 M320 M416 M424 M610 M620 M740 M782 M904 M905 Q337 Q417 Q433 R013 0058-15401-K 0058-15401-M
05 G001 G002 G003 G010 G011 G012 G013 G020 G021 G022 G029 G030 G040 G050 G100 G221 G553 G563 H6 H601 H608 H609 H641 H642 H643 H661 H662 H663 H681 H682 H683 H684 H689 H721 H731 M210 M211 M212 M213 M214 M215 M216 M220 M221 M222 M223 M224 M225 M226 M231 M232 M233 M250 M280 M281 M282 M283 M311 M312 M313 M314 M315 M316 M320 M321 M322 M323 M331 M332 M333 M340 M342 M363 M391 M392 M393 M414 M415 M416 M424 M510 M520 M530 M531 M540 M541 M620 M740 M782 M904 M905 Q337 Q433 R013 0058-15402-K 0058-15402-M
Derwent Registry Numbers: 0355-U; 0897-U
Specific Compound Numbers: R00897-K; R00897-M; R00355-K; R00355-M; RA00D1-K ; RA00D1-M
Generic Compound Numbers: 0058-15401-K; 0058-15401-M; 0058-15402-K; 0058-15402-M
Key Word Indexing Terms:
01 14713-0-0-0-CL 2973-0-0-0-CL 110809-0-0-0-CL 0058-15401-CL 0058-15402-CL

35/9/12 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX

014261169
WPI Acc No: 2002-081867/200211
Related WPI Acc No: 2000-194417; 2001-146119
XRAM Acc No: C02-024637
Desiccant **for drying** difluoromethane **refrigerant, comprises potassium exchanged** zeolite **A having specified amount of cations exchanged with potassium and clay binder**
Patent Assignee: COHEN A P (COHE-I); HURST J E (HURS-I); LAVIN M (LAVI-I)
Inventor: COHEN A P; HURST J E; LAVIN M
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 6313059	B1	20011106	US 97879448	A	19970620	200211	B
			US 99376684	A	19990818		
			US 2000676278	A	20000928		

Priority Applications (No Type Date): US 99376684 A 19990818; US 97879448 A 19970620; US 2000676278 A 20000928
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6313059	B1		11	B01J-029/06	CIP of application US 97879448 Div ex application US 99376684 CIP of patent US 6020281 Div ex patent US 6168720

Abstract (Basic): US 6313059 B1

NOVELTY - A **desiccant** comprises a potassium exchanged **zeolite** A having greater than 60% of cations exchanged with potassium and a clay binder. It has a **water absorption** capacity of greater than 15 wt.%, and no capacity to adsorb **difluoromethane** . It has a surface ratio (silicon:aluminum) of less than 1.7 mol/mol as per X-ray photoelectron spectroscopy.

USE - For drying **difluoromethane** refrigerant.

ADVANTAGE - The invention excludes **difluoromethane** (R-32) refrigerant while **adsorbing water** . It provides chemical compatibility with the R-32, high water capacity (greater than 15 wt.%), and maintenance of refrigerant blend composition.

pp; 11 DwgNo 0/4

Technology Focus:

TECHNOLOGY FOCUS - INORGANIC CHEMISTRY - Preferred Property: The **desiccant** has a **difluoromethane** adsorption capacity of less than 1.2, especially less than 0.5 wt.%.

Extension Abstract:

EXAMPLE - A potassium exchanged **zeolite** A (77 parts) with greater than 60% cations exchanged with potassium, was combined with clay binder comprising (parts) kaolin clay (18), halloysite clay (5), and dispersant (0.5). The mixture was finely pulverized, added with water (31) and then kneaded with agitation, thus obtaining exchanged **zeolite** A composition. The composition was then formed into green beads, screened to obtain 6x10 beads. The beads were dried for 2 days at 120 degreesC and was charged to rotary kiln operating at 550-800 degreesC in the presence of steam. The steam was introduced at 40 mol of the air rate. The product thus obtained had a bulk density of 56, a crush strength of 15.4, an R-32 adsorption of 0.35 wt.%, and a **water adsorption** of 18.4 wt.%.

Title Terms: **DESICCATE** ; DRY; REFRIGERATE; COMPRISE; POTASSIUM; EXCHANGE; **ZEOLITE** ; SPECIFIED; AMOUNT; CATION; EXCHANGE; POTASSIUM; CLAY; BIND

Derwent Class: E16; E33; J07; J08

International Patent Class (Main): B01J-029/06

File Segment: CPI

Manual Codes (CPI/A-N): E10-H03A3; E11-Q01; E11-Q02; E31-P02B; J07-A08; J08-D06

Chemical Fragment Codes (M3):

01 H6 H601 H608 H684 M280 M311 M321 M342 M363 M391 M416 M620 M720 M904 M905 N164 Q433 R023 R07374-K R07374-P

02 A119 A313 A940 B114 B701 B712 B720 B831 C108 C550 C802 C803 C804 C805 C807 M411 M781 M904 M905 N164 Q508 Q605 R038 0054-89701-K 0054-89701-R

03 A111 A119 A313 A940 B114 B701 B712 B720 B831 C108 C550 C802 C803 C804 C805 C807 M411 M781 M904 M905 N164 Q508 Q605 R038 0054-89702-K 0054-89702-R

04 C101 C108 C550 C730 C800 C801 C802 C804 C805 C807 M411 M750 M904 M905 M910 N164 R023 R01740-K R01740-X

Derwent Registry Numbers: 1740-U

Specific Compound Numbers: R07374-K; R07374-P; R01740-K; R01740-X

Generic Compound Numbers: 0054-89701-K; 0054-89701-R; 0054-89702-K; 0054-89702-R

Key Word Indexing Terms:

01 8406-0-0-0-CL, PRD 3-0-0-0-CL, REM 0054-89701-CL 0054-89702-CL

35/9/13 (Item 3 from file: 350)

DIALOG(R)File 350:Derwent WPIX

014121595

WPI Acc No: 2001-605807/200169

XRAM Acc No: C01-180045

Zeolite **bead compact used for absorption separation and** dehydration , **comprises kaolin-type clay, inorganic type dispersing agent and** zeolite

Patent Assignee: TOSOH CORP (TOYJ)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 2001226167	A	20010821	JP 200081807	A	20000317	200169	B

Priority Applications (No Type Date): JP 99347281 A 19991207
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 2001226167	A		8	C04B-035/16	

Abstract (Basic): JP 2001226167 A

NOVELTY - A **zeolite** bead compact comprises kaolin-type clay, inorganic type dispersing agent and a **zeolite** .

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(i) the manufacture of a **zeolite** bead compact comprising dispersing **zeolite** powder, kaolin type clay and inorganic type dispersing agent in water, kneading the mixture, molding in bead form, drying by roll granulation, and baking activation; and

(ii) absorption and removal, comprising contacting a gas or liquid with **zeolite** bead compact followed by absorbing and removing the absorbate in gas or liquid.

USE - Used for absorption separation and **dehydration** , e.g. for **removing moisture** content in freon coolant and organic solvent, absorption separation of carbon dioxide and nitrogen from the atmosphere.

ADVANTAGE - The **zeolite** bead compact has high pressure resistance, absorbent physical property and the amount of **moisture** content equilibrium **adsorption** is high. A **zeolite** bead compact with good properties is manufactured easily. The compact **absorbs moisture** efficiently without decomposing gas and liquid.

pp; 8 DwgNo 0/0

Technology Focus:

TECHNOLOGY FOCUS - INORGANIC CHEMISTRY - Preferred Composition: A **zeolite** bead compact comprises 20-30 parts weight of kaolin type clay, 4-10 parts weight of inorganic type dispersing agent and 100 parts weight of **zeolite** . The compact contains polyphosphate which has high solubility in water and alkaline water aqueous solution, as inorganic type dispersing agent. The polyphosphate is sodium pyrophosphate, sodium tripolyphosphate and/or potassium pyrophosphate.

Preferred Process: 100 parts weight of **zeolite** powder and 20-30 parts weight of kaolin type clay are mixed and the **zeolite** powder formed is dispersed in water using 4-10 parts weight of inorganic type dispersing agent and molded in bead form. The beads are dried by roll granulation method, so that bulk density becomes 0.8-1 kg/l. Subsequently, baking activation of the beads are carried out to manufacture the compact.

Preferred **Zeolite** : The **zeolite** is **zeolite** -A and/or **faujasite** type **zeolite** , preferably the **zeolite** -A is 3A type **zeolite** or 4A type **zeolite** .

Preferred **Absorbate** : The **absorbate** is **water** which is **absorbed** and removed from coolant containing 1,1,1,2-tetrafluoroethane (**HFC - 134a**).

Title Terms: **ZEOLITE** ; BEAD; COMPACT; ABSORB; SEPARATE; **DEHYDRATE** ; COMPRISE; KAOLIN; TYPE; CLAY; INORGANIC; TYPE; DISPERSE; AGENT; **ZEOLITE**
Derwent Class: J01; L02
International Patent Class (Main): C04B-035/16
International Patent Class (Additional): B01D-015/00; B01D-053/28; B01J-020/18; B01J-020/30
File Segment: CPI
Manual Codes (CPI/A-N): J01-E01; J01-E02B; L02-G

35/9/14 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX

013700158 **Image available**
WPI Acc No: 2001-184382/200119
XRAM Acc No: C01-055421

Pressure swing adsorption process for purifying feed stream containing hydrogen involves passing feed stream through adsorbent bed, adsorbing contaminant by (zeolite) adsorbent layer and recovering purified hydrogen

Patent Assignee: PRAXAIR TECHNOLOGY INC (PRAX-N); ACKLEY M W (ACKL-I); BAKSH M S A (BAKS-I)
Inventor: ACKLEY M W; BAKSH M S A

Number of Countries: 031 Number of Patents: 007
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 1076035	A2	20010214	EP 2000117437	A	20000811	200119	B
CA 2315484	A1	20010213	CA 2315484	A	20000811	200119	
JP 2001070727	A	20010321	JP 2000244116	A	20000811	200122	
BR 200004131	A	20010403	BR 20004131	A	20000811	200128	
CN 1284473	A	20010221	CN 2000122638	A	20000811	200131	
US 6340382	B1	20020122	US 99373749	A	19990813	200208	
KR 2001076171	A	20010811	KR 200046576	A	20000811	200212	

Priority Applications (No Type Date): US 99373749 A 19990813
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 1076035	A2	E	23	C01B-003/56	
	Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI				
CA 2315484	A1	E		C01B-003/56	
JP 2001070727	A		16	B01D-053/02	
BR 200004131	A			B01D-053/047	
CN 1284473	A			C01B-003/56	
US 6340382	B1			B01D-053/047	
KR 2001076171	A			C01B-003/50	

Abstract (Basic): EP 1076035 A2

NOVELTY - A feed stream (17) is passed at a pressure above atmospheric pressure through a multilayer adsorbent bed (20). A contaminant is adsorbed from gas stream before passing the stream through a layer of naturally occurring **zeolite** or layer of synthetic **zeolite** adsorbent to adsorb all of the nitrogen in stream and recovering purified (greater than 99.9%) hydrogen (19) as product from multilayer adsorbent bed.

DETAILED DESCRIPTION - A feed stream is passed at a pressure above atmospheric pressure through a multilayer adsorbent bed. A contaminant is adsorbed from gas stream before passing the stream through a layer of naturally occurring **zeolite** or layer of synthetic **zeolite** adsorbent to adsorb all of the nitrogen in stream and recovering purified (greater than 99.9%) hydrogen as product from multilayer adsorbent bed. The contaminant is water, carbon dioxide, methane or carbon monoxide. The **zeolite** is **chabazite** , **erionite** , **clinoptilolite** or **faujasite** **zeolite** . The synthetic **zeolite** adsorbent is CaX, LiA, LiX or VSA6 adsorbent, and has **silica** / **alumina** ratio of 2-2.5.

An INDEPENDENT CLAIM is also included for pressure swing adsorption (PSA) system which comprises several adsorbent beds. Each adsorbent bed comprises an **adsorbent** layer for **removing** **water** , an **absorbent** layer for removing carbon dioxide, and an adsorbent layer of CaX, LiA, LiX or VSA6 adsorbent.

USE - For purifying feed stream containing more than 50 mol% hydrogen.

ADVANTAGE - The improved process provides higher hydrogen recovery, reduced adsorbent and lower capital and operating costs. High purity hydrogen from various hydrogen-containing feed mixtures such as synthesis gas, is produced.

DESCRIPTION OF DRAWING(S) - The figure shows schematic diagram of PSA adsorption bed.

Synthesis gas stream (17)
Hydrogen product stream (19)
Adsorbent bed (20)
Alumina layer (21)
Activated carbon layer (22)
Zeolite adsorbent layer (23)

pp; 23 DwgNo 5/11
Technology Focus:
TECHNOLOGY FOCUS - CHEMICAL ENGINEERING - Preferred Composition: The feed stream contains less than 3% nitrogen, preferably less than 1.5% nitrogen. The gas stream before being passed through the **zeolite** adsorbent, contains on an average less than 0.15 mol% carbon dioxide. The feed gas stream to be treated is synthetic gas containing 60-90 mol% hydrogen. The **zeolite** is type X with ion exchange more than 80% calcium. Preferred Process: The feed gas stream is first passed through the adsorbent bed containing alumina layer (21) for **adsorbing water** , then through an activated carbon layer (22) for adsorbing carbon monoxide, methane and carbon dioxide, and then through a **zeolite** adsorbent layer (23) for **adsorbing** nitrogen. **Water** , carbon dioxide, **carbon tetrafluoride** and carbon monoxide are adsorbed from the gas stream before the passing stream through naturally occurring adsorbent or synthetic **zeolite** adsorbent. The stream is passed at a pressure of 5-20 bars through four adsorbent beds each of which includes a layer of the naturally occurring or synthetic **zeolite** for adsorbing nitrogen from the gas stream. The total bed size factor is less than 9000 lb/TPD of hydrogen and hydrogen recoveries of the order to 80 or greater are obtained.
Title Terms: PRESSURE; SWING; ADSORB; PROCESS; PURIFICATION; FEED; STREAM; CONTAIN; HYDROGEN; PASS; FEED; STREAM; THROUGH; ADSORB; BED; ADSORB; CONTAMINATE; **ZEOLITE** ; ADSORB; LAYER; RECOVER; PURIFICATION; HYDROGEN
Derwent Class: E19; E36; H02; J01
International Patent Class (Main): B01D-053/02; B01D-053/047; C01B-003/50; C01B-003/56
International Patent Class (Additional): B01D-053/04; B01D-053/26; B01J-020/16; B01J-020/18
File Segment: CPI
Manual Codes (CPI/A-N): E10-H04A3; E10-J02D1; E11-Q01; E11-Q02; E31-A02; E31-A05; E31-H03; E31-N04C; E31-N05B; E31-N05C; E31-P02B; E31-P02D; H02-B01; J01-E03D
Chemical Fragment Codes (M3):
01 C101 C550 C810 M411 M424 M720 M740 M904 M905 N163 N164 N513 N522 Q413 Q431 R01532-K R01532-P
02 C107 C520 C810 M411 M750 M904 M905 M910 N163 N164 Q431 Q436 Q439 R01738-K R01738-X
03 C106 C108 C550 C730 C800 C801 C802 C803 C805 C807 M411 M750 M904 M905 M910 N163 N164 Q431 Q436 Q439 R01423-K R01423-X
04 C106 C108 C530 C730 C800 C801 C802 C803 C805 C807 M411 M750 M904 M905 M910 N163 N164 Q431 Q436 Q439 R01066-K R01066-X
05 H6 H607 H685 H689 M280 M311 M321 M344 M363 M391 M416 M620 M750 M904 M905 M910 N163 N164 Q431 Q436 Q439 R00378-K R00378-X
06 M210 M211 M320 M416 M610 M620 M750 M904 M905 M910 N163 N164 Q431 Q436 Q439 R00323-K R00323-X
07 C101 C108 C550 C730 C800 C801 C802 C804 C805 C807 M411 M750 M904 M905 M910 N163 N164 Q431 Q436 Q439 R01740-K R01740-X
08 A111 A212 A220 A313 A940 B114 B701 B712 B720 B831 C108 C802 C803 C804 C805 C807 M411 M781 M904 M905 N164 Q431 Q436 Q439 Q508 R032 R034 RA1B1X-K RA1B1X-R RA1B1X-U
09 A100 A200 A313 A940 B114 B701 B712 B720 B831 C108 C802 C803 C804 C805 C807 M411 M781 M904 M905 N164 Q431 Q436 Q439 Q508 R032 R034 R17004-K R17004-R R17004-U
10 A111 A119 A220 A313 A940 B114 B701 B712 B720 B831 C101 C108 C550 C802 C803 C804 C805 C807 M411 M781 M904 M905 N164 Q431 Q436 Q439 Q508 R032 R034 RA142L-K RA142L-R RA142L-U
11 A220 A313 A940 A950 B114 B701 B712 B720 B831 C101 C108 C550 C802 C803 C804 C805 C807 M411 M781 M904 M905 N164 Q431 Q436 Q439 Q508 R032 R034 RA142K-K RA142K-R RA142K-U
12 A111 A212 A220 A313 A940 B114 B701 B712 B720 B831 C108 C802 C803 C804 C805 C807 M411 M781 M904 M905 N164 Q431 Q436 Q439 Q508 R032 R034 R16550-K R16550-R R16550-U
13 C106 C810 M411 M781 M904 M905 M910 N164 Q431 Q436 Q439 Q508 R032 R034 R01669-K R01669-R R01669-U R05085-K R05085-R R05085-U
14 A100 A103 A111 A200 A220 A313 A940 B114 B701 B712 B720 B831 C108 C802 C803 C804 C805 C807 M411 M781 M904 M905 N164 Q431 Q436 Q439 Q508 R032 R034 0035-02101-K 0035-02101-R 0035-02101-U

Derwent Registry Numbers: 0323-U; 0378-U; 1066-U; 1423-U; 1532-P; 1532-U; 1669-U; 1738-U; 1740-U
Specific Compound Numbers: R01532-K; R01532-P; R01738-K; R01738-X; R01423-K; R01423-X; R01066-K; R01066-X; R00378-K; R00378-X; R00323-K; R00323-X; R01740-K; R01740-X; RA1B1X-K; RA1B1X-R; RA1B1X-U; R17004-K; R17004-R; R17004-U; RA142L-K; RA142L-R; RA142L-U; RA142K-K; RA142K-R; RA142K-U; R16550-K; R16550-R; R16550-U; R01669-K; R01669-R; R01669-U; R05085-K; R05085-R; R05085-U
Generic Compound Numbers: 0035-02101-K; 0035-02101-R; 0035-02101-U
Key Word Indexing Terms:
01 97153-0-0-0-CL, PRD 800-0-0-0-CL, REM 783-0-0-0-CL, REM 255-0-0-0-CL, REM 155190-0-0-0-CL, REM 7382-0-0-0-CL, REM 3-0-0-0-CL, REM 262405-0-0-0-CL, USE 91239-0-0-0-CL, USE 253335-0-0-0-CL, USE 253333-0-0-0-CL, USE 135376-0-0-0-CL, USE 2211-0-0-0-CL, USE 0035-02101-CL, USE

35/9/15 (Item 5 from file: 350)
DIALOG(R)File 350:Derwent WPIX

013661907
WPI Acc No: 2001-146119/200115
Related WPI Acc No: 2000-194417; 2002-081867
XRAM Acc No: C01-043153

Removal **of** water **from a refrigerant comprising** difluoromethane **by contacting the refrigerant with a** desiccant **with a potassium exchanged** zeolite **A having specified available cations exchanged with potassium and clay binder**

Patent Assignee: UOP LLC (UNVO)
Inventor: COHEN A P; HURST J E; LAVIN M
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 6168720	B1	20010102	US 97879448	A	19970620	200115	B
			US 99376684	A	19990818		

Priority Applications (No Type Date): US 99376684 A 19990818; US 97879448 A 19970620
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6168720	B1		11	B01D-015/04	CIP of application US 97879448 CIP of patent US 6020281

Abstract (Basic): US 6168720 B1

NOVELTY - **Water** is **removed** from a refrigerant comprising **difluoromethane** by contacting the refrigerant with a **desiccant** . The **desiccant** comprises a potassium exchanged **zeolite** A having greater than 60% of available cations exchanged with potassium and clay binder.

DETAILED DESCRIPTION - **Removal** of **water** from a refrigerant comprising **difluoromethane** comprises contacting the refrigerant with a **desiccant** . The **desiccant** comprises a potassium exchanged **zeolite** A having greater than 60% of available cations exchanged with potassium and clay binder. It has a **water adsorption** capacity of more than 15 wt.%, no **difluoromethane** adsorption capacity, and a surface ratio of silicon to aluminum of less than 1.7 mol/mol as determined by X-ray photoelectron spectroscopy.

USE - For the **removal** of **water** from a refrigerant comprising **difluoromethane** employed as circulating refrigerant streams of refrigeration systems.

ADVANTAGE - The **desiccant** has (a) a **water adsorption** capacity of at least 15 wt.%; (b) essentially no reactivity with **difluoromethane** ; and (c) essentially no capacity for the adsorption of difuoromethane. It provides refrigeration systems with chemical compatibility with the **chlorodifluoromethane** (R-32 refrigerant), high water capacity (greater than 15 wt.%), and maintenance of refrigerant blend composition.

pp; 11 DwgNo 0/4

Extension Abstract:
EXAMPLE - A sample of the potassium exchanged **zeolite** above was compared to **desiccants** prepared by the methods described in US 5514633 and US 3625866 giving two sets of silicate coated 2 mm beads. The analysis of the surface of the particles by photoelectron spectra using a monochromatic aluminum K-alpha x-ray source and standard procedures clearly showed that the **desiccant** of the present invention had essentially no adsorption capacity for **difluoromethane** and had a silicon to aluminum at the surface of the particle of 1.18 mol/mol as compared to the **desiccants** prepared by the methods disclosed in the patents US 5514633 and US 3625866 which showed a significantly higher surface ratio of silicon to aluminum which was 1.73 and 2.38, respectively.

Title Terms: REMOVE; WATER; REFRIGERATE; COMPRISE; CONTACT; REFRIGERATE; **DESICCATE** ; POTASSIUM; EXCHANGE; **ZEOLITE** ; SPECIFIED; AVAILABLE; CATION; EXCHANGE; POTASSIUM; CLAY; BIND
Derwent Class: E16; G04; J07
International Patent Class (Main): B01D-015/04
File Segment: CPI
Manual Codes (CPI/A-N): E10-H04A3; E11-Q01; E11-Q02; E31-A05; E31-P02B; G04-B01; J07-A01
Chemical Fragment Codes (M3):
01 H6 H601 H608 H684 M280 M311 M321 M342 M363 M391 M416 M620 M720 M904 M905 N163 Q337 Q433 R023 R07374-K R07374-P
02 C101 C108 C550 C730 C800 C801 C802 C804 C805 C807 M411 M750 M904 M905 M910 N163 R023 R01740-K R01740-X
03 A119 A313 A940 B114 B701 B712 B720 B831 C108 C550 C802 C803 C804 C805 C807 M411 M781 M904 M905 N163 Q508 0033-25301-K 0033-25301-R
04 A100 A119 A200 A313 A940 B114 B701 B712 B720 B831 C108 C550 C802 C803 C804 C805 C807 M411 M781 M904 M905 N163 Q508 0033-25302-K 0033-25302-R
Derwent Registry Numbers: 1740-U
Specific Compound Numbers: R07374-K; R07374-P; R01740-K; R01740-X
Generic Compound Numbers: 0033-25301-K; 0033-25301-R; 0033-25302-K; 0033-25302-R
Key Word Indexing Terms:
01 8406-0-0-0-CL, PRD 3-0-0-0-CL, REM 0033-25301-CL 0033-25302-CL

35/9/16 (Item 6 from file: 350)
DIALOG(R)File 350:Derwent WPIX

013293271
WPI Acc No: 2000-465206/200040
Related WPI Acc No: 1999-457877
XRAM Acc No: C00-139957
XRPX Acc No: N00-347274
Desiccant **composition for** removing water **from e.g., refrigerants, air, or natural gas, comprises a** drying agent **and binder**
Patent Assignee: ALLIED-SIGNAL INC (ALLC); LOGSDON P B (LOGS-I); ROBINSON R P (ROBI-I); THOMAS R H P (THOM-I); WILLIAMS D J (WILL-I)
Inventor: LOGSDON P B; ROBINSON R P; THOMAS R H P; WILLIAMS D J
Number of Countries: 084 Number of Patents: 004
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200035562	A2	20000622	WO 99US30064	A	19991216	200040	B
AU 200021918	A	20000703	AU 200021918	A	19991216	200046	
US 20010014707	A1	20010816	US 97967632	A	19971110	200149	
			US 98112546	A	19981216		
			US 99291339	A	19990414		
			US 2001826064	A	20010404		
EP 1144090	A2	20011017	EP 99966357	A	19991216	200169	
			WO 99US30064	A	19991216		

Priority Applications (No Type Date): US 99291339 A 19990414; US 98112546 P 19981216; US 97967632 A 19971110; US 2001826064 A 20010404
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200035562	A2	E	21	B01D-053/28	

Designated States (National): AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW

AU 200021918	A	B01D-053/28	Based on patent WO 200035562
US 20010014707	A1	C08K-003/34	CIP of application US 97967632 Provisional application US 98112546 Cont of application US 99291339 CIP of patent US 6101818
EP 1144090	A2 E	B01D-053/28	Based on patent WO 200035562

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI

Abstract (Basic): WO 200035562 A2

NOVELTY - A **desiccant** composition has a **drying agent** and a binder. The **drying agent** is a superabsorbent polymer and/or a **molecular sieve** . The binder is a polyurethane foam, polyisocyanurate foam, or a support comprising cellulose.

DETAILED DESCRIPTION - A **desiccant** composition for **removing water** from chemical mixtures comprises: (a) a **drying agent** comprising a **molecular sieve** and a binder comprising a cellulosic support; (b) a **drying agent** comprising a **molecular sieve** and a binder comprising at least 25 wt.% of polyurethane foam or polyisocyanurate foam; or (c) a **drying agent** comprising a superabsorbent polymer and **molecular sieve** , and a binder comprising a polyurethane foam, polyisocyanurate foam, or a cellulosic support.

INDEPENDENT CLAIMS are also included for: (a) A process of **removing water** from a chemical mixture containing halogenated hydrocarbon, e.g., refrigerant, or air, using the specified composition; and (b) a dried core comprising the specified composition.

USE - For **removing water** , or for separating, drying, and/or filtering a chemical mixture like refrigerants (e.g., in vehicular air conditioning systems), air (e.g., in vehicular braking systems), natural gas, and cleaning agents (e.g., in semiconductor manufacture and pipeline cleaning).

ADVANTAGE - The composition exhibits greater capacity and drying ability, smaller volume and elimination of a separate filter element.

pp; 21 DwgNo 0/0

Technology Focus:

TECHNOLOGY FOCUS - POLYMERS - Preferred Composition: The composition comprises a **drying agent** in 10-80, preferably 40-65, wt.%, and a binder in 20-90, preferably 50, wt.%. Preferred Polymers: The superabsorbent polymer can be sodium polyacrylate, or potassium polyacrylate. The support or binder has a laminate structure.

ORGANIC CHEMISTRY - Preferred Compounds: The halogenated hydrocarbon is a hydrofluorocarbon, preferably **difluoromethane** .

INORGANIC CHEMISTRY - Preferred Compounds: The **drying agent** can also be an activated alumina, activated carbon, or a silica gel.

Extension Abstract:

EXAMPLE - A rigid, open-celled foam was blown into a cylinder that was 4 inches long and 1.5 inches in diameter. The foam formulation contained a mixture of sodium polyacrylate and **molecular sieve** (7.25 g). The cylinder fixture, which was initially opened, was connected to an apparatus comprising a pump, a supply cylinder of dry R-134a (refrigerant), a flow meter and a bypass loop containing a Celite (RTM; Diatomaceous earth

) that was saturated with water. The valves were then opened and liquid refrigerant was fed to the pump and the pump was turned on. The fixture was closed off and the refrigerant was fed through the bypass loop. The bypass was then closed off and the fixture opened. The reading on the probe was initially off scale indicating a very high moisture level. After 6 minutes, the probe registered 528 ppm. After 50 minutes, the concentration of water in the R-134a was measured to be 86

ppm
Title Terms: **DESICCATE** ; COMPOSITION; REMOVE; WATER; REFRIGERATE; AIR; NATURAL; GAS; COMPRISE; DRY; AGENT; BIND
Derwent Class: A14; A25; A26; A81; H01; J01; L03; U11
International Patent Class (Main): B01D-053/28; C08K-003/34
International Patent Class (Additional): C08L-001/00
File Segment: CPI; EPI
Manual Codes (CPI/A-N): A12-W; H01-F01; J01-E02B; L04-C09
Manual Codes (EPI/S-X): U11-C15B3; U11-C15Q
Polymer Indexing (PS):
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001 018; P1592-R F77 D01; S9999 S1309-R
<02>
001 018; G3634-R D01 D03 D11 D10 D23 D22 D31 D42 D76 F24 F34 H0293 P0599 G3623
002 018; R24001 G0282 G0271 G0260 G0022 D01 D12 D10 D26 D51 D53 D58 D61 D83 F36 F35 Na 1A; R24000 G0282 G0271 G0260 G0022 D01 D12 D10 D26 D51 D53 D58 D61 D83 F36 F35 K- 1A; H0000; P0088
003 018; ND01; Q9999 Q9370; K9416

35/9/17 (Item 7 from file: 350)
DIALOG(R)File 350:Derwent WPIX

013242433 **Image available**
WPI Acc No: 2000-414315/200036
XRAM Acc No: C00-125628
XRPX Acc No: N00-309569
Drying of difluoromethane **refrigerant comprises use of columns which alternate in parallel between** moisture adsorption **and two-stage regeneration using helium**
Patent Assignee: ELF ATOCHEM SA (AQOR)
Inventor: BERTOCCHIO R
Number of Countries: 028 Number of Patents: 005
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 1008576	A1	20000614	EP 99402479	A	19991008	200036	B
FR 2786766	A1	20000609	FR 9815469	A	19981208	200036	
JP 2000169405	A	20000620	JP 99314508	A	19991105	200036	
CN 1266046	A	20000913	CN 99127787	A	19991208	200062	
KR 2000047606	A	20000725	KR 9949213	A	19991108	200115	

Priority Applications (No Type Date): FR 9815469 A 19981208
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 1008576	A1	F	9	C07C-017/38	
Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					
FR 2786766	A1			C07C-019/08	
JP 2000169405	A		32	C07C-017/389	
CN 1266046	A			C07C-019/08	
KR 2000047606	A			C07C-017/00	

Abstract (Basic): EP 1008576 A1
NOVELTY - **Difluoromethane** , i.e. refrigerant F32, continuously contacts **molecular sieve** type **3A** , **4A** or 5A at 5-78degreesC, preferably at ambient temperature, under a pressure 0.6-25 atm., preferably 0.8-17 atm..
DETAILED DESCRIPTION - Preferred Features: Moist F32 is gaseous, at pressure 0.6-10 atm., preferably 0.8-5 atm.. The water content is less than 10,000 ppm, preferably less than 6,000 ppm. A column downstream of the F32 manufacturing plant is used for **drying** ; it contains type 3A **molecular sieve** . Regeneration is by heating the **molecular sieve** to 120degreesC-300degreesC, preferably 150degreesC-250degreesC at absolute pressure less than 100 mm Hg, preferably less than 80 mm Hg. An inert gas is passed through, close to atmospheric pressure. A two-stage process operates. In the first stage, temperature is

sufficiently high to eliminate a substantial proportion of the F32 from the **molecular sieve** . In the second stage, the temperature is raised, removing a substantial proportion of the **water adsorbed** . Temperature ranges are detailed for two variants of this operation, which follow the foregoing principles. Regeneration takes place in the adsorption column. Two columns in parallel, alternate between adsorption and regeneration.

USE - To dry refrigerant **difluoromethane** CH2F2, F32 or **HFC - 32** .

ADVANTAGE - F32 is a preferred substitute for chlorofluorocarbons under the Montreal Protocol. Manufacturing or conversion introduces water, which must obviously be removed from refrigerant. The new process minimizes losses of F32, with the **water** being **removed** during regeneration of the adsorbent **molecular sieve** , by adopting the two-stage process described.

DESCRIPTION OF DRAWING(S) - The figure shows a schematic flow diagram of the plant.

pp; 9 DwgNo 1/1

Technology Focus:

TECHNOLOGY FOCUS - INORGANIC CHEMISTRY - Preferred Component: Helium is a particularly suitable regeneration gas.

CERAMICS AND GLASS - Preferred Component: The **molecular sieve** used is a synthetic **zeolite** , a metallic **alumino - silicate** , releasing water and refrigerant at differing temperatures.

Title Terms: DRY; REFRIGERATE; COMPRISE; COLUMN; ALTERNATE; PARALLEL; MOIST ; ADSORB; TWO; STAGE; REGENERATE; HELIUM

Derwent Class: E16; J07; X27

International Patent Class (Main): C07C-017/00; C07C-017/38; C07C-017/389; C07C-019/08

International Patent Class (Additional): B01D-053/28; B01J-020/18; B01J-020/32; B01J-020/34

File Segment: CPI; EPI

Manual Codes (CPI/A-N): E10-H03A3; E11-Q02; J07-A08

Manual Codes (EPI/S-X): X27-F02A

Chemical Fragment Codes (M3):

01 H6 H601 H608 H684 M280 M311 M321 M342 M363 M391 M416 M620 M720 M904 M905 N164 N513 N520 Q431 Q433 R07374-K R07374-P

02 A100 A111 A200 A313 A940 B114 B701 B712 B720 B831 C108 C802 C803 C804 C805 C807 M411 M782 M904 M905 Q508 R07707-K R07707-M R07707-R RA05LV-K RA05LV-M RA05LV-R

03 B002 B100 C810 M411 M782 M904 M905 M910 Q508 R01671-K R01671-M R01671-R

04 A100 A200 A313 A400 A500 A600 A940 A980 B114 B713 B720 B833 C108 C802 C803 C804 C805 C807 M411 M782 M904 M905 Q508 0019-40101-K 0019-40101-M 0019-40101-R

Derwent Registry Numbers: 1671-U

Specific Compound Numbers: R07374-K; R07374-P; R07707-K; R07707-M; R07707-R ; RA05LV-K; RA05LV-M; RA05LV-R; R01671-K; R01671-M; R01671-R

Generic Compound Numbers: 0019-40101-K; 0019-40101-M; 0019-40101-R

Key Word Indexing Terms:

01 8406-0-0-0-CL, PRD 184625-0-0-0-CL 3224-0-0-0-CL 0019-40101-CL

35/9/18 (Item 8 from file: 350)

DIALOG(R)File 350:Derwent WPIX

013022566 **Image available**

WPI Acc No: 2000-194417/200017

Related WPI Acc No: 2001-146119; 2002-081867

XRAM Acc No: C00-060225

Zeolite **A** molecular sieve **dessicant, useful for** removing water **form** difluoromethane **refrigerants, in potassium cation form, agglomerated with clay binder and pore-reduced**

Patent Assignee: UOP LLC (UNVO)

Inventor: COHEN A P; HURST J E; LAVIN M

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
US 6020281	A	20000201	US 9625804	P	19960828	200017 B
			US 97879448	A	19970620	

Priority Applications (No Type Date): US 9625804 P 19960828; US 97879448 A 19970620

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6020281	A		11	B01J-029/06	Provisional application US 9625804

Abstract (Basic): US 6020281 A

NOVELTY - A **zeolite** A **molecular sieve** dessicant comprising a highly exchanged potassium form of **zeolite** A and a specific clay binder, modified by hydrothermal treatment at elevated temperature, demonstrates a significant **water adsorption** capacity while virtually excluding **difluoromethane** adsorption.

DETAILED DESCRIPTION - A dessicant (I) suitable for use with **difluoromethane** refrigerants (II) comprises a modified form of **zeolite** A prepared using the following steps: (a) potassium ion-exchanging to greater than 60% of available sodium cations; (b) agglomerating ion-exchanged **zeolite** A with one of the following clay binders (III): attapulgite, kaolin, volclay, sepiolite, halloysite, palygorskite, ball presence of steam to produce agglomerate with **water adsorption** capacity greater than 15 wt.% and with virtually no **difluoromethane** adsorption capacity (A).

USE - As a dessicant for **adsorbing water** to prevent freeze-up and corrosion in closed0cycle refrigeration systems.

ADVANTAGE - The adsorbent provides good chemical compatibility with **difluoromethane** refrigerant, high water capacity greater than 15 wt.%) and maintenance of refrigerant blend composition.

DESCRIPTION OF DRAWING(S) - The drawing shows a graphical summary of the R-32 adsorption capacity of various dessicant samples.

pp; 11 DwgNo 1/4

Technology Focus:

TECHNOLOGY FOCUS - INORGANIC CHEMISTRY - Preferred Reagent: in (b) (III) is attapulgite, kaolin, volclay, sepiolite or hallosite clay (in 5-30 wt.% of **zeolite** agglomerate). Preferred Conditions: (c) comprises thermal or hydrothermal treatment of agglomerate at over 550 degrees C, A is less than 0.3 wt.%.

Extension Abstract:

EXAMPLE - In refrigerant/dessicant compatibility tests a mixture of liquid **difluoromethane** (R-32) and a polyester lubricant were contacted with a series of samples of clay bonded high potassium (80%) exchanged **zeolite** 3A prepared with a variety of clay binders. Each of these samples (about 10g) had been steam calcined at 500-800 degrees C while 10% steam in air was passed over for 1 hour. First, activated pellets of the **adsorbent** samples (10g) having **water adsorption** capacity greater than 15 wt.% were added to a stainless steel bomb. When the lubricant and liquid R-32 (each 10g) had been injected, the bomb was sealed with air evacuated and kept at 75 degrees C for 7 days. Resultant R-32 adsorption at about 67 kPa is shown in the drawing. R32 adsorption was effectively excluded while **water adsorption** capacities ranged from 17-19.5 wt.%.

Title Terms: **ZEOLITE** ; MOLECULAR; SIEVE; USEFUL; REMOVE; WATER; FORM; REFRIGERATE; POTASSIUM; CATION; FORM; AGGLOMERATE; CLAY; BIND; PORE; REDUCE

Derwent Class: E16; J01; J07

International Patent Class (Main): B01J-029/06

File Segment: CPI

Manual Codes (CPI/A-N): E10-H04A3; E11-Q02; E31-P02B; J01-D01; J07-A08

Chemical Fragment Codes (M3):

01 H6 H601 H608 H684 M280 M311 M321 M342 M363 M391 M416 M620 M750 M904 M905 N163 Q431 Q433 R07374-K R07374-X

02 A119 A313 A940 B114 B701 B712 B720 B831 C108 C802 C803 C804 C805 C807 M411 M781 M904 M905 N163 Q431 Q508 R044 0013-88001-K 0013-88001-R

Specific Compound Numbers: R07374-K; R07374-X

Generic Compound Numbers: 0013-88001-K; 0013-88001-R

Key Word Indexing Terms:

01 8406-0-0-0-CL, REM 0013-88001-CL

35/9/19 (Item 9 from file: 350)
DIALOG(R)File 350:Derwent WPIX

012998489 **Image available**
WPI Acc No: 2000-170341/200015
XRAM Acc No: C00-052886

Processing of exhaust gases produced by a semiconductor manufacturing process including the concentration of hexafluoroethane **for subsequent recovery and utilization**

Patent Assignee: BOC GROUP INC (BRTO)
Inventor: ATHALYE A M; JAIN R; JI W; SADKOWSKI P J; SHEN D; SHIRLEY A I
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 6017382	A	20000125	US 9850259	A	19980330	200015	B

Priority Applications (No Type Date): US 9850259 A 19980330
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6017382	A		6	B01D-053/047	

Abstract (Basic): US 6017382 A

NOVELTY - The process comprises introducing a feed stream made up of the semiconductor manufacturing exhaust gases comprising oxygen, nitrogen and **hexafluoroethane** , originating from a semiconductor processing chamber to a first adsorbent bed. The adsorbent bed is selected to adsorb oxygen and nitrogen if present, but not to appreciably adsorb **hexafluoroethane** , such that a product stream discharged from the adsorbent bed has a higher concentration of **hexafluoroethane** than the feed stream.

DETAILED DESCRIPTION - The first adsorbent has a pore size greater than the oxygen and less than a kinetic diameter of the **hexafluoroethane** , e.g. carbon **molecular sieve** is provided as a single adsorbent to adsorb the oxygen, or a modified 4A **zeolite** may be used to adsorb both oxygen and nitrogen. In addition, a further adsorbent, preferably 5A **zeolite** , may be provided to also adsorb any **carbon tetrafluoride** produced as a by-product. When the exhaust gases further comprise moisture, a silica gel or alumina adsorbent bed may be included with the foregoing to **adsorb** the **moisture** .

USE - A method of processing exhaust gases produced by a semiconductor manufacturing process, particularly exhaust gases containing moisture, oxygen, nitrogen, **hexafluoroethane** and **carbon tetrafluoride** .

ADVANTAGE - **Hexafluoroethane** is concentrated for subsequent recovery without using a reduced pressure and may be further treated or utilized without or with a min. of further compression.

DESCRIPTION OF DRAWING(S) - The drawing shows a schematic representation of an apparatus for carrying out the method of the invention.

Adsorption beds (10,12,14,16)
Feed stream (24)
Product stream (26)
Compressor (28)
Secondary feed tank (30)
Backfill stream (42)
Vacuum/vent stream (48)
pp; 6 DwgNo 1/2

Extension Abstract:

WIDER DISCLOSURE - A pressure swing adsorption cycle may be utilized with a plurality of adsorption beds in order to provide effective regeneration of the adsorbent beds.

Title Terms: PROCESS; EXHAUST; GAS; PRODUCE; SEMICONDUCTOR; MANUFACTURE; PROCESS; CONCENTRATE; SUBSEQUENT; RECOVER
Derwent Class: J01; L03

International Patent Class (Main): B01D-053/047
File Segment: CPI
Manual Codes (CPI/A-N): J01-E03C; L04-D10; L04-X

35/9/20 (Item 10 from file: 350)
DIALOG(R)File 350:Derwent WPIX

012991817
WPI Acc No: 2000-163669/200015
XRAM Acc No: C00-051331
Desiccant **for refrigerating cycle - has specific fluorine ion concentration after carrying out sealed tube test using hydrofluorocarbon type chlorofluorocarbon replacing material containing** difluoromethane
Patent Assignee: TOSOH CORP (TOYJ)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 11335117	A	19991207	JP 98143973	A	19980526	200015	B

Priority Applications (No Type Date): JP 98143973 A 19980526
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 11335117	A		13	C01B-039/14	

Abstract (Basic): JP 11335117 A
NOVELTY - A **desiccant** for refrigerating cycle consists of **zeolite** -A made of sodium and potassium as metal cations and a high purity kaolin group clay. The fluorine ion concentration in the **desiccant** after carrying out sealed tube test using hydrofluorocarbon type chlorofluorocarbon replacing material (HFC) containing **difluoromethane** (**HFC - 32**) is 2 multiply 103 ppm or less. DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for the manufacture of **desiccant** . **Zeolite** -A containing sodium and potassium ions is mixed with high purity kaolin group clay and molded into a compact. The compact is impregnated with an alkali metal silicate aqueous solution, dried and baked.
USE - The **desiccant** is used for refrigerating cycle and as a substitute for freon coolant in industries.
ADVANTAGE - The **desiccant** has excellent **dehydration** property and contributes to long term stable run of refrigerating cycle. The generation of fluorine compound due to decomposition of **HFC - 32** in the **desiccant** is restrained over a long period of time.
Dwg.0/0
Title Terms: **DESICCATE** ; REFRIGERATE; CYCLE; SPECIFIC; FLUORINE; ION; CONCENTRATE; AFTER; CARRY; SEAL; TUBE; TEST; TYPE; REPLACE; MATERIAL; CONTAIN
Derwent Class: E16; J07
International Patent Class (Main): C01B-039/14
International Patent Class (Additional): B01J-020/18; C01B-039/18
File Segment: CPI
Manual Codes (CPI/A-N): E10-H04; E31-P02; E31-P02B; J07-A08
Chemical Fragment Codes (M3):
01 A111 A119 A313 A422 A426 A940 B114 B701 B712 B720 B831 C009 C100 C108 C550 C803 C804 C805 C807 M411 M720 M781 M903 M904 N104 Q605 0015-IX001-K 0015-IX001-P 0015-IX001-U
Generic Compound Numbers: 0015-IX001-K; 0015-IX001-P; 0015-IX001-U

35/9/21 (Item 11 from file: 350)
DIALOG(R)File 350:Derwent WPIX

012815097
WPI Acc No: 1999-621328/199954
XRAM Acc No: C99-181623
XRPX Acc No: N99-458382

Decomposition of partly and/or completely halogenated (m)ethane, e.g. propellant, refrigerant or solvent

Patent Assignee: RAUSCH A (RAUS-I); WEDLICH P (WEDL-I)
Inventor: RAUSCH A; WEDLICH P
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
DE 19819437	A1	19991111	DE 1019437	A	19980430	199954	B

Priority Applications (No Type Date): DE 1019437 A 19980430
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 19819437	A1		3	C07B-035/06	

Abstract (Basic): DE 19819437 A1

NOVELTY - Decomposition of partly and/or completely halogenated 1 or 2 carbon saturated hydrocarbons by reaction with water is carried out in the presence of a **zeolite** H- **ZSM 5** catalyst with a **silica / alumina** molar ratio of 25-35, preferably 28.

USE - The process is useful for converting chlorofluorohydrocarbons into substances that are harmless or less harmful to the environment, e.g. compounds and mixtures used as aerosol propellants, refrigerants, **fire extinguishers** , dry cleaning solvents and blowing agents for cellular plastics and for degreasing metals.

ADVANTAGE - The process is simple and reliable and uses much less energy than thermal cracking (e.g. at 2000degreesC). The **zeolites** used have high thermal stability and are insensitive to the corrosive decomposition products (hydrogen bromide, chloride and fluoride).

pp; 3 DwgNo 0/0

Technology Focus:

TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preferred Process: The hydrohalic acids formed as neutralized, preferably in a later stage. Water is added in at least stoichiometric ratio and decomposition is carried out at 200-500, especially 300-400degreesC.

Extension Abstract:

EXAMPLE - **Zeolite** H- **ZSM 5** (**silica / alumina** molar ratio 28) was heated to 340degreesC in a tubular reactor, then a mixture of chlorofluorohydrocarbon R 12 (**dichlorodifluoromethane**) and at least a stoichiometric amount of water vapor was passed through the reactor at 340degreesC. Complete degradation was obtained with 500 g **zeolite** and a gas flow of 25 l/hour. After scrubbing with aqueous sodium hydroxide solution, the gas stream was free from carbon and halogenated products.

Title Terms: DECOMPOSE; COMPLETE; HALOGENATED; ETHANE; PROPELLANT; REFRIGERATE; SOLVENT
Derwent Class: E16; J04; P35
International Patent Class (Main): C07B-035/06
International Patent Class (Additional): **A62D-003/00**
File Segment: CPI; EngPI
Manual Codes (CPI/A-N): E10-H04; E11-Q02; J04-E01; N06-A
Chemical Fragment Codes (M3):

01 H6 H601 H602 H607 H608 H686 H689 M280 M311 M321 M344 M363 M391 M416 M620 M750 M904 M905 M910 N163 R00376-K R00376-X
02 H6 H600 H607 H608 H609 H681 H682 H683 H684 H685 H686 H689 M210 M211 M212 M231 M232 M233 M250 M280 M281 M311 M312 M320 M321 M331 M332 M333 M334 M340 M342 M343 M344 M363 M391 M416 M620 M750 M904 M905 N163 0009-37201-K 0009-37201-X
03 H6 H601 H602 H607 H608 H609 H681 H682 H683 H684 H685 H686 H689 M280 M311 M312 M321 M331 M332 M333 M334 M340 M342 M343 M344 M363 M391 M416 M620 M750 M904 M905 N163 0009-37202-K 0009-37202-X
04 A111 A313 A940 B114 B701 B712 B720 B831 C101 C108 C550 C802 C803 C804 C805 C807 M411 M730 M904 M905 N163 Q421 R16966-K R16966-C

Derwent Registry Numbers: 0376-U
Specific Compound Numbers: R00376-K; R00376-X; R16966-K; R16966-C
Generic Compound Numbers: 0009-37201-K; 0009-37201-X; 0009-37202-K; 0009-37202-X
Key Word Indexing Terms:

01 134886-0-0-0-CL 592-0-0-0-CL, REM 0009-37201-CL, REM 0009-37202-CL, REM

35/9/22 (Item 12 from file: 350)
DIALOG(R)File 350:Derwent WPIX

012651772
WPI Acc No: 1999-457877/199938
Related WPI Acc No: 2000-465206
XRAM Acc No: C99-134328

Separating water from chemical mixture e.g. for use in electronic manufacture

Patent Assignee: ALLIED-SIGNAL INC (ALLC)
Inventor: COTTRELL S A; MCKOWN J W; ROBINSON R P; SINGH R R; THOMAS R H P; THOMAS R

Number of Countries: 081 Number of Patents: 007
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9926708	A1	19990603	WO 98US23807	A	19981110	199938	B
AU 9913890	A	19990615	AU 9913890	A	19981210	199944	
US 6101818	A	20000815	US 97967632	A	19971110	200041	
EP 1034020	A1	20000913	EP 98957697	A	19981110	200046	
			WO 98US23807	A	19981110		
KR 2001031985	A	20010416	KR 2000705095	A	20000510	200163	
MX 2000004507	A1	20010301	MX 20004507	A	20000510	200170	
JP 2001523561	W	20011127	WO 98US23807	A	19981110	200204	
			JP 2000521903	A	19981110		

Priority Applications (No Type Date): US 97967632 A 19971110
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9926708	A1	E	22	B01D-015/00	
Designated States (National): AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW				
Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW					
AU 9913890	A				Based on patent WO 9926708
US 6101818	A			F25B-047/00	
EP 1034020	A1	E		B01D-015/00	Based on patent WO 9926708
Designated States (Regional): BE DE ES FR GB IT NL					
KR 2001031985	A			B01D-015/00	
MX 2000004507	A1			B01D-015/00	
JP 2001523561	W		19	B01D-015/00	Based on patent WO 9926708

Abstract (Basic): WO 9926708 A1

NOVELTY - Method for separating water from a chemical mixture by contacting with a water-soluble polymer, preferably sodium polyacrylate.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(a) separating water from a chemical mixture comprising water, organic and/or inorganic materials with an effective amount of **drying agent** comprising a water-soluble polymer;

(b) separating water from a chemical mixture comprising water and organic materials with an effective amount of **drying agent** comprising a polyacrylic acid or its salt;

(c) a process where a refrigerant is cycled in a system having an effective amount of **drying agent** and condensed and then evaporated;

(d) producing halogenated hydrocarbons comprising contacting a chemical mixture comprising water and at least one halogenated hydrocarbon with effective amount of **drying agent** .

USE - Used eg. in electronic and semiconductor manufacturing, where solvents may be used for drying manufactured parts, but the **water** must be **removed** for the solvent to be re-useable. Can also be used in refrigeration, air-conditioning and freezing equipment.

ADVANTAGE - Provides an effective method for separating water compared to prior art. Provides a convenient and cost-effective method

for carrying out such drying.
pp; 22 DwgNo 0/0

Technology Focus:

TECHNOLOGY FOCUS - POLYMERS - Preferred Mixture: The mixture comprises water and at least one organic material, preferably **difluoromethane** . The water-soluble polymer is synthetic and is preferably polyacrylic acid or its salt, more preferably sodium acrylate. The **drying agent** further comprises at least **molecular sieve** , activated alumina, and their mixtures, preferably a **zeolite molecular sieve** and/or activated alumina. The **drying agent** further comprises anhydrous metal sulfates, chlorides and perchlorates, phosphorous pentaoxide and their mixtures.

Extension Abstract:

EXAMPLE - A sample of HFC-245ca was loaded with water to a concentration of 1485 ppm. The potassium salt of polyacrylic acid was dried to 469 ppm. 0.18g potassium salt of polyacrylic acid was then added to 28.4g of wet HFC-245ca, the weight of the polyacrylic acid being 0.6wt.%. After standing for 20 minutes, the water concentration in the HFC-245ca was 898 ppm. The weight of the polyacrylic acid salt was then increased to 0.98g, 3.5 wt.% of the HFC-245ca. After another 30 minutes, the water concentration of the HFC-245ca was found to be 255 ppm. Therefore, in 1 hour, the water content of the HFC-245ca, was reduced by 83% using a maximum of 3.5 wt.% of the polymer. After 2 days, the moisture level dropped to 95 ppm, or 94%.

Title Terms: SEPARATE; WATER; CHEMICAL; MIXTURE; ELECTRONIC; MANUFACTURE

Derwent Class: A14; A97; E19; J01; Q75

International Patent Class (Main): B01D-015/00; F25B-047/00

International Patent Class (Additional): B01D-003/00; B01D-017/02; B01D-017/022; B01D-053/26; B01J-020/26; C07C-017/10; C07C-017/38; C08F-020/06

File Segment: CPI; EngPI

Manual Codes (CPI/A-N): A04-F04; A12-E07C; A12-W11G; E10-H03A3; E11-Q01; E11-Q02; E31-A05; E31-C; E31-K07; E31-P02B; E33-B; E34-C02; J01-D01

Chemical Fragment Codes (M3):

01 C101 C108 C550 C730 C800 C801 C802 C804 C805 C807 M411 M424 M740 M750 M904 M905 M910 N163 N513 Q010 Q431 Q433 Q439 R01740-K R01740-X

02 A119 A940 C108 C316 C540 C730 C801 C802 C803 C804 C805 M411 M424 M740 M782 M904 M905 M910 N163 N426 N513 Q010 Q431 Q433 Q439 Q508 R01773-K R01773-M R01773-R

03 A111 A940 C108 C316 C540 C730 C801 C802 C803 C804 C805 M411 M424 M740 M782 M904 M905 M910 N163 N513 Q010 Q431 Q433 Q439 R01744-K R01744-M R01744-R

04 A119 A940 C017 C100 C730 C801 C803 C804 C805 C806 C807 M411 M424 M740 M782 M904 M905 M910 N163 N426 N513 Q010 Q431 Q433 Q439 Q508 R01678-K R01678-M R01678-R

05 B115 B702 B712 B720 B815 B832 C108 C800 C802 C803 C804 C805 C807 M411 M424 M740 M782 M904 M905 M910 N163 N426 N513 Q010 Q431 Q433 Q439 Q508 R01523-K R01523-M R01523-R

06 H6 H601 H609 H684 H689 M280 M312 M321 M332 M344 M363 M391 M416 M424 M620 M720 M740 M904 M905 N163 N513 Q010 Q431 Q433 Q439 R16770-K R16770-P

07 A111 A940 C017 C100 C730 C801 C803 C804 C805 C806 C807 M411 M424 M740 M782 M904 M905 M910 N163 N426 N513 Q010 Q431 Q433 Q439 Q508 R01706-K R01706-M R01706-R

08 A313 A940 C108 C550 C730 C801 C802 C803 C804 C805 C807 M411 M424 M740 M782 M904 M905 M910 N163 N426 N513 Q010 Q431 Q433 Q439 Q508 R01544-K R01544-M R01544-R

09 A100 A200 A313 A940 B114 B701 B712 B720 B831 C108 C802 C803 C804 C805 C807 M411 M424 M740 M782 M905 N163 N426 N513 Q010 Q431 Q433 Q439 Q508 RA00D1-K RA00D1-M RA00D1-R

10 H6 H601 H608 H684 M280 M311 M321 M342 M363 M391 M416 M424 M620 M720 M740 M904 M905 N163 N513 Q010 Q431 Q433 Q439 R07374-K R07374-P

11 H6 H601 H608 H684 H685 M280 M313 M321 M332 M344 M363 M391 M416 M424 M620 M720 M740 M904 M905 N163 N513 Q010 Q431 Q433 Q439 RA03QL-K RA03QL-P

12 H6 H601 H609 H682 H684 H689 M280 M313 M321 M332 M344 M363 M391 M416 M424 M620 M720 M740 M904 M905 N163 N513 Q010 Q431 Q433 Q439 RA0BTL-K RA0BTL-P

Polymer Indexing (PS):
<01>
001 018; G0282-R G0271 G0260 G0022 D01 D12 D10 D26 D51 D53 D58 D83 F36 F35; R00446 G0282 G0271 G0260 G0022 D01 D12 D10 D26 D51 D53 D58 D60 D83 F36 F35; R24001 G0282 G0271 G0260 G0022 D01 D12 D10 D26 D51 D53 D58 D61 D83 F36 F35 Na 1A; R24000 G0282 G0271 G0260 G0022 D01 D12 D10 D26 D51 D53 D58 D61 D83 F36 F35 K- 1A; H0000; P0088 ; P0099
002 018; ND01; B9999 B3521-R B3510 B3372; Q9999 Q6940 Q6939; Q9999 Q7330-R; Q9999 Q7476 Q7330
Derwent Registry Numbers: 1523-U; 1544-U; 1678-U; 1706-U; 1740-U; 1744-U; 1773-U
Specific Compound Numbers: R01740-K; R01740-X; R01773-K; R01773-M; R01773-R ; R01744-K; R01744-M; R01744-R; R01678-K; R01678-M; R01678-R; R01523-K; R01523-M; R01523-R; R16770-K; R16770-P; R01706-K; R01706-M; R01706-R; R01544-K; R01544-M; R01544-R; RA00D1-K; RA00D1-M; RA00D1-R; R07374-K; R07374-P; RA03QL-K; RA03QL-P; RA0BTL-K; RA0BTL-P
Key Word Indexing Terms:
01 104544-0-0-0-CL 107367-0-0-0-CL 127-0-0-0-CL 459-0-0-0-CL 108605-0-0-0-CL, PRD 114-0-0-0-CL 92-0-0-0-CL 110809-0-0-0-CL 8406-0-0-0-CL, PRD 205192-0-0-0-CL, PRD 215974-0-0-0-CL, PRD 3-0-0-0-CL, REM

35/9/23 (Item 13 from file: 350)
DIALOG(R)File 350:Derwent WPIX

012587828 **Image available**
WPI Acc No: 1999-393935/199933
XRAM Acc No: C99-115710
XRPX Acc No: N99-294359
Fire extinguisher **for aircraft interiors, buildings, etc.**
Patent Assignee: POWSUS INC (POWS-N)
Inventor: MACELWEE D B; STEWART H E
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 5909776	A	19990608	US 97835813	A	19970416	199933	B

Priority Applications (No Type Date): US 97835813 A 19970416
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5909776	A		9	A62C-035/10	

Abstract (Basic): US 5909776 A
NOVELTY - The extinguisher consists of a tubular container (17) which is molded using thermoplastic synthetic polymeric resin and sealed on both ends (19, 21). The material of the container ruptures at super atmospheric pressure (pressure between 1.2-10 atmospheres) and flame temperature (open flame with temperatures 100-180degreesC) to release the inner fire extinguishing compound of effective composition, maintained at super atmospheric pressure, and below flame temperature.
DETAILED DESCRIPTION - The linear **fire extinguisher** has a tubular container molded with thermoplastic synthetic polymeric resin and is sealed on either ends. The container walls are fabricated to rupture under super atmospheric pressure at flame temperature, to release the inner flame extinguishing compound, which is a partially non-aqueous fluid and is maintained at super atmospheric pressure below flame temperature. The fire extinguishing compound can be a gas or a gel. The gas is one of perfluoro carbon, hydrochloro fluoro carbon or hydrofluoro carbon, into which dry powders of fire extinguishing agent (maximum particle size 500 microns) is dispersed. The gel, which has yield stress of at least 200 dynes/cm2 comprises a surfactant and a deflocculant.
An INDEPENDENT CLAIM is also included for fire extinguishing method which involves installing the **fire extinguisher** in the potential sites.
USE - For extinguishing fire within confined spaces such as

aircraft interiors, buildings, electric control boxes, etc.

ADVANTAGE - The container of the **fire extinguisher** is light weight, flexible and resistant to super atmospheric pressures at temperature below 30 degreesC. Hence, the **fire extinguisher** is prevented from being activated in the absence of flame. The molded container prevents the leakage of inner fire extinguishing compound.

DESCRIPTION OF DRAWING(S) - The diagram shows a sectional view of **fire extinguisher** .

Tubular container; (17)

Fire extinguishing compound; (18)

Ends (19,21)

pp; 9 DwgNo 1/4

Technology Focus:

TECHNOLOGY FOCUS - MECHANICAL ENGINEERING - Preferred Design: The extinguisher consists of storage container for holding the fire extinguishing composition under super atmospheric pressure and a conduit connects the storage container with an elongated chamber, resistant to the super atmospheric pressure.

INORGANIC CHEMISTRY - Preferred Compound: The fire extinguishing agent is ammonium polyphosphate of formula (I).

(NH4)n+2PnO3n+1 (I)

n=1000-3000.

The ammonium polyphosphate particles have an apparent density of 0.4-0.9 and particle size of 1-100 microns (average particle size=1-12 microns). The proportion of gas in the entire gel composition is between 40-98%.

Preferred Gel: The gelling is performed with fumes of **silica / alumina** . The gel composition comprises 0.5-10 weight percent of non-ionic surfactant, a depolarizing quantity of an anionic surfactant, 0.001-0.5 wt. parts of film forming fluorocarbon and 0.5-10 wt.% phosphoric or phosphinic acid ester or salt represented by formulae (II) to (VI);

P2-(X)n (II)

(P(X)n)3N (III)

((P(X)n)2N)2(X)n (IV)

((P(X)n)2N(X)nP (V)

((P(X)n)2N(X)n)3N (VI)

P=phosphonic, phosphinic acid radical or water soluble salt of such radical;

N=Nitrogen;

X=CH2 or CR2;

n=1-5;

R=H, OH, (CH2)H or part of shared cycloalkyl group.

Xn is directly bonded to 2 nitrogen atoms and two adjacent X groups represent cycloalkyl preferably cyclohexyl.

POLYMERS - Preferred container: The resin used for molding the container is a polyamide such as nylon 12 or nylon 12,12

Extension Abstract:

EXAMPLE - **Fire extinguisher** gel was obtained by dispersing 100.4 g of ammonium polyphosphate (average particle size 30 microns) in 120.3 g of 1,1,1,2-tetra fluoro ethane, gelled with 2.0 g of fumed **silica / alumina** . The gel also contained 1.0 g of polyoxyethylene sorbitol, 1.0 g Zonyl FSN (RTM) (fluorosurfactant) and 2.0 g of antiflocculant. 370 g of this gel was incorporated into tubular container made of nylon 12,12 having a wall thickness of 1.0 mm, under pressure of 80 psi to obtain a **fire extinguisher** . This **fire extinguisher** had a percentage of expulsion of 94.59%, the container ruptured at 120degreesF in 2.3 seconds.

Title Terms: FIRE; EXTINGUISH; AIRCRAFT; INTERIOR; BUILD

Derwent Class: A23; A92; A95; A97; E11; E19; E35; K01; P35

International Patent Class (Main): A62C-035/10

File Segment: CPI; EngPI

Manual Codes (CPI/A-N): A05-F01E; A12-T04; A12-W12; E05-G03D; E05-G06; K01-A

Chemical Fragment Codes (M3):

01 A313 A940 C108 C550 C730 C801 C802 C803 C804 C805 C807 M411 M782 M904 M905 M910 Q441 R023 R01544-K R01544-M

02 B114 B702 B720 B831 C108 C800 C802 C803 C804 C805 C807 M411 M782

M904 M905 Q441 R023 R01694-K R01694-M
03 B115 B702 B713 B720 B795 B799 B815 B833 C500 C730 C802 C804 C807 M411 M782 M904 M905 Q441 R023 R03561-K R03561-M
04 B115 B702 B713 B720 B815 B832 B833 C101 C108 C500 C802 C804 C807 M411 M782 M904 M905 Q441 R023 0004-22501-K 0004-22501-M
05 B415 B701 B712 B720 B741 B815 B831 H1 H100 H181 M280 M313 M321 M332 M342 M361 M391 M411 M510 M520 M530 M540 M620 M782 M904 M905 Q441 R023 0004-22502-K 0004-22502-M
06 B415 B702 B713 B720 B742 B815 B832 H4 H401 H481 H8 M280 M312 M321 M331 M340 M343 M361 M391 M411 M510 M520 M530 M540 M620 M782 M904 M905 Q441 R023 0004-22503-K 0004-22503-M
07 A111 A960 B415 B702 B713 B720 B742 B815 B832 C710 H4 H401 H481 H8 M280 M312 M321 M331 M340 M343 M361 M391 M411 M510 M520 M530 M540 M620 M782 M904 M905 Q441 R023 0004-22504-K 0004-22504-M
08 B415 B702 B713 B720 B744 B815 B833 C101 C500 C710 H1 H103 H182 M280 M311 M312 M321 M323 M332 M342 M361 M383 M391 M393 M411 M510 M520 M530 M540 M620 M640 M782 M904 M905 Q441 R023 0004-22505-K 0004-22505-M
09 B415 B702 B713 B720 B744 B815 B833 C101 C500 C710 H1 H103 H182 M280 M311 M315 M321 M323 M332 M342 M361 M383 M391 M393 M411 M510 M520 M530 M540 M620 M640 M782 M904 M905 Q441 R023 0004-22506-K 0004-22506-M
10 B415 B702 B713 B720 B744 B760 B813 B815 B833 H1 H103 H183 M280 M311 M312 M322 M323 M332 M342 M361 M383 M392 M393 M411 M510 M520 M530 M540 M620 M782 M904 M905 Q441 R023 0004-22507-K 0004-22507-M

Polymer Indexing (PS):
<01>
001 018; H0317; S9999 S1434; S9999 S1661
002 018; H0317; P0635-R F70 D01; S9999 S1434; S9999 S1661
003 018; H0317; P0679 P1934 P0635 F70 D01 D11 D10 D50 D92; S9999 S1434; S9999 S1661
004 018; ND01; K9416; K9905; Q9999 Q9223 Q9212; Q9999 Q6826-R; Q9999 Q9369
005 018; Q9999 Q8399-R Q8366; B9999 B4842 B4831 B4740; B9999 B4035 B3930 B3838 B3747; B9999 B5243-R B4740
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001 018; R00351 G1558 D01 D23 D22 D31 D42 D50 D73 D82 F47; P8004 P0975 P0964 D01 D10 D11 D50 D82 F34; P0055; H0000; M9999 M2153-R; M9999 M2200; S9999 S1365
002 018; ND01; K9416; K9905; Q9999 Q9223 Q9212; Q9999 Q6826-R; Q9999 Q9369
003 018; Q9999 Q9110; K9325

Derwent Registry Numbers: 1544-U
Specific Compound Numbers: R01544-K; R01544-M; R01694-K; R01694-M; R03561-K; R03561-M
Generic Compound Numbers: 0004-22501-K; 0004-22501-M; 0004-22502-K; 0004-22502-M; 0004-22503-K; 0004-22503-M; 0004-22504-K; 0004-22504-M; 0004-22505-K; 0004-22505-M; 0004-22506-K; 0004-22506-M; 0004-22507-K; 0004-22507-M
Key Word Indexing Terms:
01 107016-0-0-0-CL 130174-0-0-0-CL 92-0-0-0-CL 0004-22501-CL 0004-22502-CL 0004-22503-CL 0004-22504-CL 0004-22505-CL 0004-22506-CL 0004-22507-CL

35/9/24 (Item 14 from file: 350)
DIALOG(R)File 350:Derwent WPIX

012064265
WPI Acc No: 1998-481176/199841
XRAM Acc No: C98-145681
XRPX Acc No: N98-375374
Refrigerator provided with a hydraulic medium and with zeolite **as a** desiccant **for the medium - comprising a coolant containing** HFC 32 **as an indispensible component and at least one refrigerator oil selected from ether-base and ester-base refrigerator oils**
Patent Assignee: DAIKIN IND LTD (DAIK)

Inventor: IDE S; SHIBANUMA T; TSUCHIYA T
Number of Countries: 019 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9838264	A1	19980903	WO 98JP286	A	19980122	199841	B
EP 974633	A1	20000126	EP 98901001	A	19980122	200010	
			WO 98JP286	A	19980122		
JP 10537493	X	20001114	JP 98537493	A	19980122	200062	
			WO 98JP286	A	19980122		

Priority Applications (No Type Date): JP 97223395 A 19970820; JP 9743242 A 19970227
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9838264	A1	J	35	C09K-005/04	
Designated States (National): JP US					
Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE					
EP 974633	A1	E		C09K-005/04	Based on patent WO 9838264
Designated States (Regional): DE ES FR GB IT					
JP 10537493	X			C09K-005/04	Based on patent WO 9838264

Abstract (Basic): WO 9838264 A

A vapour compression refrigerator is claimed, which is provided with a hydraulic medium (1), and in which a synthetic **zeolite** having an average pore diameter of more than 2.6 3.0 Angstrom at 25 deg. C is used as a **desiccant** for the hydraulic medium (1). The hydraulic medium (1) comprises a coolant comprising **HFC 32** as an indispensable component and a halogenated methane that is not **HFC32** , and at least one refrigerator oil selected from ether- base and ester-base refrigerator oils. This medium (1) can be adsorbed/decomposed by the **desiccant** (synthetic **zeolite**) to the same extent as HF32 alone is adsorbed/decomposed by the synthetic **zeolite** , or less .

USE - The claimed hydraulic medium (1) is used in vapour compression refrigerators.

ADVANTAGE - The hydraulic medium used in the claimed refrigerator can be maintained dry without damaging its stability and activity. Since the refrigerator oil does not decompose in this system, capillaries do not get blocked by decomposed substances. Hence the refrigerator lasts for a long period.

Dwg.0/1

Title Terms: REFRIGERATE; HYDRAULIC; MEDIUM; **ZEOLITE** ; **DESICCATE** ; MEDIUM ; COMPRISE; COOLANT; CONTAIN; COMPONENT; ONE; REFRIGERATE; OIL; SELECT; ETHER; BASE; ESTER; BASE; REFRIGERATE; OIL
Derwent Class: E16; G04; H08; J07; Q75
International Patent Class (Main): C09K-005/04
International Patent Class (Additional): B01D-015/00; F25B-001/00; F25B-043/00
File Segment: CPI; EngPI
Manual Codes (CPI/A-N): E10-H04A3; E31-P02B; G04-B01; H08-D; J07-A01; J07-A05
Chemical Fragment Codes (M3):
01 H6 H601 H607 H608 H609 H681 H682 H683 H684 H685 H689 M280 M311 M312 M313 M314 M315 M316 M321 M331 M332 M333 M340 M342 M343 M344 M363 M391 M416 M620 M782 M903 M904 Q337 Q417 Q433 R023 9841-GKS01-K 9841-GKS01-M
02 A100 A111 A200 A313 A940 B114 B701 B712 B720 B831 C108 C802 C803 C804 C805 C807 M411 M782 M903 M904 Q337 Q417 Q433 R023 R07707-K R07707-M
Specific Compound Numbers: R07707-K; R07707-M
Generic Compound Numbers: 9841-GKS01-K; 9841-GKS01-M

35/9/25 (Item 15 from file: 350)
DIALOG(R)File 350:Derwent WPIX

011960520
WPI Acc No: 1998-377430/199832
XRAM Acc No: C98-114625
XRPX Acc No: N98-295089
Agent which cools pyrotechnically produced gas containing an aerosol - liberates water when in contact with hot gases and facilitates use of a pyrotechnic charge as a fire - extinguisher **in the presence of a human operator**
Patent Assignee: DYNAMIT NOBEL GMBH EXPLOSIVSTOFF & SYSTE (DYNN)
Inventor: MACKOWIAK H; MODIGELL M
Number of Countries: 020 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9828041	A1	19980702	WO 97EP7219	A	19971220	199832	B
DE 19756779	A1	19980716	DE 1056779	A	19971219	199834	

Priority Applications (No Type Date): DE 1053370 A 19961220
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9828041	A1	G	14	A62C-005/00	
	Designated States (National): IL NO US				
	Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE				
DE 19756779	A1			A62D-001/00	

Abstract (Basic): WO 9828041 A
An agent cools pyrotechnically-produced gas containing an aerosol. The novelty is that: (a) the agent is a water-laden absorbent which liberates water when in contact with hot gases; (b) the agent releases practically no water under normal conditions of temperature and humidity; (c) the adsorbent material has an adsorption isobar and is chemically inert; (d) the adsorbent agent is kiesel gel, silicic acid, or **zeolite** .
Also claimed is a suitable assembly for cooling hot gases, in which particulate matter forms a bed positioned before the discharge outlet.
USE- The adsorption agent cools pyrotechnically-produced gas containing an aerosol esp. as produced by **fire extinguishers** . The gas is cooled by the high evaporation enthalpy of water.
ADVANTAGE - The agent and assembly facilitate the use of a pyrotechnic charge as a **fire - extinguisher** in the presence of a human operator.
Dwg.0/0
Title Terms: AGENT; COOLING; PYROTECHNIC; PRODUCE; GAS; CONTAIN; AEROSOL; LIBERATING; WATER; CONTACT; HOT; GAS; FACILITATE; PYROTECHNIC; CHARGE; FIRE; EXTINGUISH; PRESENCE; HUMAN; OPERATE
Derwent Class: J08; P35
International Patent Class (Main): A62C-005/00; A62D-001/00
International Patent Class (Additional): C06D-005/00
File Segment: CPI; EngPI
Manual Codes (CPI/A-N): J08-H01
Derwent Registry Numbers: 1542-U

35/9/26 (Item 16 from file: 350)
DIALOG(R)File 350:Derwent WPIX

011621036 **Image available**
WPI Acc No: 1998-038164/199804
XRPX Acc No: N98-030644
Measuring method for moisture content e.g. water mist from fire extinguisher **and included in air - by using initial weight of probe, its weight after moisture extraction operation, and volume of air which comes out from suction opening during moisture extraction operation as factors to compute moisture content**
Patent Assignee: YAMATO PROTECH KK (YAMA-N)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 9292325	A	19971111	JP 96109373	A	19960430	199804	B

Priority Applications (No Type Date): JP 96109373 A 19960430
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 9292325	A		9	G01N-009/36	

Abstract (Basic): JP 9292325 A

The method involves arranging the air-suction system opening of a probe (1) into an environmental space whose moisture content should be measured. The probe encloses a moisture scavenger layer e.g. **zeolite** layer with internal container having a suction opening that catches moisture in air. During the moisture extraction operation, the air in space is sucked by the air-suction system opening and made to pass to the moisture scavenger layer.

The moisture is then extracted from the moisture scavenger layer by sucking the internal of the container through the suction opening. The initial weight of the probe, its weight after moisture extraction operation, and the volume of air which comes out from the suction opening during moisture extraction operation are used as factors to compute moisture content in air.

ADVANTAGE - Enables measurement of moisture content by measuring apparatus in arbitrary positions in environmental space without receiving so much water particles and not being influenced by air flow. Simplifies measurement of fire-extinguishing capacity of **fire extinguisher** .

Dwg.1/8

Title Terms: MEASURE; METHOD; MOIST; CONTENT; WATER; MIST; FIRE; EXTINGUISH ; AIR; INITIAL; WEIGHT; PROBE; WEIGHT; AFTER; MOIST; EXTRACT; OPERATE; VOLUME; AIR; SUCTION; OPEN; MOIST; EXTRACT; OPERATE; FACTOR; COMPUTATION; MOIST; CONTENT
Derwent Class: S03
International Patent Class (Main): G01N-009/36
File Segment: EPI
Manual Codes (EPI/S-X): S03-E12; S03-E14B; S03-F09

35/9/27 (Item 17 from file: 350)
DIALOG(R)File 350:Derwent WPIX

011381357
WPI Acc No: 1997-359264/199733
XRAM Acc No: C97-115598
XRPX Acc No: N97-298338
Mixed cooling medium used for air conditioners and refrigerators - comprising difluoromethane **and** pentafluoroethane
Patent Assignee: ASAHI GLASS CO LTD (ASAG)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 9151370	A	19970610	JP 95312763	A	19951130	199733	B

Priority Applications (No Type Date): JP 95312763 A 19951130
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 9151370	A		4		

Abstract (Basic): JP 9151370 A

A mixed cooling medium comprises 47-48 wt.% **difluoromethane** (**HFC - 32**) and 53-52 wt.% **pentafluoroethane** (**HFC - 125**).

Also claimed are cooling devices using the mixed cooling medium consisting of **difluoromethane** and **pentafluoroethane** , a **zeolite drying agent** and a lubricating oil compatible with the mixed cooling medium.

USE - The cooling devices include air conditioners, refrigerators and heat pump devices.

ADVANTAGE - The mixed cooling media contain no chlorine in their molecules, have excellent cooling performance and incombustibility on leakage from the device, cause no large performance changes for a long use and can be used in conventional cooling devices without major changes. The cooling devices have long high reliability.
Dwg.0/10
Title Terms: MIX; COOLING; MEDIUM; AIR; CONDITION; REFRIGERATE; COMPRISE; DI; FLUORO; METHANE; PENTA; FLUORO; ETHANE
Derwent Class: E16; G04; J07; Q75; X27
International Patent Class (Main): C09K-005/04
International Patent Class (Additional): C07C-019/08; C10M-105/32; C10N-030-00; C10N-040-30; F25B-001/00; F25B-013/00
File Segment: CPI; EPI; EngPI
Manual Codes (CPI/A-N): E10-H04A3; G04-B01; J07-A08
Manual Codes (EPI/S-X): X27-F
Chemical Fragment Codes (M3):
01 H6 H601 H608 H684 M280 M311 M321 M342 M363 M391 M416 M424 M620 M782 M903 M904 Q433 Q434 R013 R07374-M
02 H6 H601 H608 H684 H685 M280 M312 M321 M332 M344 M363 M391 M416 M424 M620 M782 M903 M904 Q433 Q434 R013 R16771-M
Specific Compound Numbers: R07374-M; R16771-M

35/9/28 (Item 18 from file: 350)
DIALOG(R)File 350:Derwent WPIX

010923359
WPI Acc No: 1996-420310/199642
XRAM Acc No: C96-131787
Zeolite desiccating **agent - contains caesium ion as metal cation, giving good** desiccating **performance**
Patent Assignee: TOSOH CORP (TOYJ)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 8206495	A	19960813	JP 9517207	A	19950203	199642	B

Priority Applications (No Type Date): JP 9517207 A 19950203
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 8206495	A		7	B01J-020/18	

Abstract (Basic): JP 8206495 A
The agent contains a caesium ion as a metal cation.
ADVANTAGE - The agent has a low decomposition property of **difluoromethane** (**HFC32**) and sufficient **water absorption** amt., and is capable of showing good performance as a **desiccating** agent of coolant contg. **HFC32** can be obtd.
Dwg.0/0
Title Terms: **ZEOLITE** ; **DESICCATE** ; AGENT; CONTAIN; CAESIUM; ION; METAL; CATION; **DESICCATE** ; PERFORMANCE
Derwent Class: E16; J01; J07
International Patent Class (Main): B01J-020/18
File Segment: CPI
Manual Codes (CPI/A-N): E31-P02B; J01-D01
Chemical Fragment Codes (M3):
01 A103 A111 A119 A155 A212 A220 A313 A940 A980 B114 B701 B712 B720 B831 C108 C802 C803 C804 C805 C807 M411 M781 M903 M904 N426 R036 9642-B9301-U
Generic Compound Numbers: 9642-B9301-U

35/9/29 (Item 19 from file: 350)
DIALOG(R)File 350:Derwent WPIX

010923358

WPI Acc No: 1996-420309/199642
XRAM Acc No: C96-131786
XRPX Acc No: N96-354399
Zeolite desiccant **for** drying **fluoromethane - having lower activity and thus able to be used for drying unstable chemicals**
Patent Assignee: TOSOH CORP (TOYJ)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 8206494	A	19960813	JP 9517875	A	19950206	199642	B

Priority Applications (No Type Date): JP 9517875 A 19950206
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 8206494	A		5	B01J-020/18	

Abstract (Basic): JP 8206494 A
The **desiccant** is a **zeolite** whose Si/Al atomic ratio is 2-10.
Also claimed is a **desiccant** consisting of the above **zeolite** and binder. The material **dried** by the **desiccant** contains F, H, and C, or F, H, Cl and C.
USE - Used for drying fluoromethane, which is used as a coolant in place of conventional Freon gas.
ADVANTAGE - The **desiccant** has lower activity to **difluoromethane**, and thus is used as a **desiccant** for chemicals which are instable and easily decomposed.
Dwg.0/0
Title Terms: **ZEOLITE** ; **DESICCATE** ; DRY; FLUORO; METHANE; LOWER; ACTIVE; ABLE; DRY; UNSTABLE; CHEMICAL
Derwent Class: E16; J01; J07; X27
International Patent Class (Main): B01J-020/18
International Patent Class (Additional): C07C-017/389; C07C-019/08
File Segment: CPI; EPI
Manual Codes (CPI/A-N): E10-H03A3; E10-H03B2; E31-P02B; J01-E01; J07-A08
Manual Codes (EPI/S-X): X27-F
Chemical Fragment Codes (M3):
01 A111 A119 A137 A313 A940 B114 B701 B712 B720 B831 C108 C802 C803 C804 C805 C807 M411 M781 M903 M904 Q431 Q434 Q605 R032 R036 9642-B9201-U
02 A111 A119 A137 A313 A940 B114 B701 B712 B720 B831 C108 C802 C803 C804 C805 C807 M411 M781 M903 M904 Q431 Q434 Q605 R032 R036 9642-B9202-U
03 H6 H601 H607 H608 H609 H681 H682 H683 H684 H685 H689 M210 M211 M212 M213 M214 M215 M216 M220 M221 M222 M223 M224 M225 M226 M231 M232 M233 M250 M280 M281 M311 M312 M313 M314 M315 M316 M320 M321 M331 M332 M333 M340 M342 M343 M344 M363 M391 M416 M620 M720 M903 M904 N104 N513 Q431 Q433 Q434 9642-B9203-P
04 H6 H601 H602 H607 H608 H609 H681 H682 H683 H684 H685 H686 H689 M280 M311 M312 M313 M314 M315 M316 M321 M331 M332 M333 M340 M342 M343 M344 M363 M391 M416 M620 M720 M903 M904 N104 N513 Q431 Q433 Q434 9642-B9204-P
Generic Compound Numbers: 9642-B9201-U; 9642-B9202-U; 9642-B9203-P; 9642-B9204-P

35/9/30 (Item 20 from file: 350)
DIALOG(R)File 350:Derwent WPIX

010923357
WPI Acc No: 1996-420308/199642
XRAM Acc No: C96-131785
XRPX Acc No: N96-354398
Desiccant **used for drying fluoromethane and unstable chemicals - consisting of P-type and/or HS-type** zeolite **and opt. binder. and having lower activity, allowing usage for unstable chemicals**
Patent Assignee: TOSOH CORP (TOYJ)
Number of Countries: 001 Number of Patents: 001

Patent Family:
Patent No Kind Date Applicat No Kind Date Week
JP 8206493 A 19960813 JP 9515973 A 19950202 199642 B

Priority Applications (No Type Date): JP 9515973 A 19950202
Patent Details:
Patent No Kind Lan Pg Main IPC Filing Notes
JP 8206493 A 7 B01J-020/18

Abstract (Basic): JP 8206493 A
The **desiccant** consists of P-type **zeolite** and/or HS-type **zeolite** . Another **desiccant** contains P-type **zeolite** and/or HS-type **zeolite** and binder. The material which is dried by the **desiccant** are cpds. which contains F, H and C, or F, H, Cl, and C.
USE - Used for drying fluoromethane which is used as a coolant in place of conventional Freon gas.
ADVANTAGE - The **desiccant** has a lower activity of decomposing **difluoromethane** , and can be used as a **desiccant** for all kinds of chemicals which are unstable and easy to decompose.
Dwg.0/0
Title Terms: **DESICCATE** ; DRY; FLUORO; METHANE; UNSTABLE; CHEMICAL; CONSIST ; P; TYPE; TYPE; **ZEOLITE** ; OPTION; BIND; LOWER; ACTIVE; ALLOW; UNSTABLE; CHEMICAL
Derwent Class: E16; E33; J01; J07; X27
International Patent Class (Main): B01J-020/18
International Patent Class (Additional): C01B-039/00; C07C-017/389; C07C-019/08
File Segment: CPI; EPI
Manual Codes (CPI/A-N): E10-H03A3; E10-H03B2; E31-P02B; J01-E01; J07-A08
Manual Codes (EPI/S-X): X27-F
Chemical Fragment Codes (M3):
01 A111 A119 A137 A313 A940 B114 B701 B712 B720 B831 C108 C802 C803 C804 C805 C807 M411 M781 M782 M903 M904 Q431 Q434 Q605 R032 R036 9642-B9101-M 9642-B9101-U
02 A111 A119 A137 A313 A940 B114 B701 B712 B720 B831 C108 C802 C803 C804 C805 C807 M411 M781 M782 M903 M904 Q431 Q434 Q605 R032 R036 9642-B9102-M 9642-B9102-U
03 H6 H601 H607 H608 H609 H681 H682 H683 H684 H685 H689 M210 M211 M212 M213 M214 M215 M216 M220 M221 M222 M223 M224 M225 M226 M231 M232 M233 M250 M280 M281 M311 M312 M313 M314 M315 M316 M320 M321 M331 M332 M333 M340 M342 M343 M344 M363 M391 M416 M620 M720 M903 M904 N104 N513 Q431 Q433 Q434 9642-B9103-P
04 H6 H601 H602 H607 H608 H609 H681 H682 H683 H684 H685 H686 H689 M280 M311 M312 M313 M314 M315 M316 M321 M331 M332 M333 M340 M342 M343 M344 M363 M391 M416 M620 M720 M903 M904 N104 N513 Q431 Q433 Q434 9642-B9104-P
Generic Compound Numbers: 9642-B9101-M; 9642-B9101-U; 9642-B9102-M; 9642-B9102-U; 9642-B9103-P; 9642-B9104-P

35/9/31 (Item 21 from file: 350)
DIALOG(R)File 350:Derwent WPIX

010869189
WPI Acc No: 1996-366140/199637
XRAM Acc No: C96-115411
Drying agent **for coolant contg.** difluoromethane **- comprising A-type** zeolite **contg. sodium and potassium giving higher** water adsorption **and wear resistance**
Patent Assignee: TOSOH CORP (TOYJ)
Number of Countries: 001 Number of Patents: 001
Patent Family:
Patent No Kind Date Applicat No Kind Date Week
JP 8173799 A 19960709 JP 9529201 A 19950217 199637 B

Priority Applications (No Type Date): JP 94265077 A 19941028
Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes
JP 8173799 A 8 B01J-020/18

Abstract (Basic): JP 8173799 A

A **drying agent** comprising A-type **zeolite** contg. Na and K as metal cations, has the following features; (1) saturation **water adsorption** at 25 deg. C and humidity of 80% is 0.5 wt.% or more; (2) the saturation **water adsorption** at 60 deg. C and humidity of 80% is more than the saturation **water adsorption** at 25 deg. C and humidity of 80%; (3) saturation CO2 gas adsorption at 25 deg. C and CO2 gas partial pressure of 250 mmHg is 0.1 wt.% or less; (4) initial CO2 gas adsorption rate at 75 deg. C and CO2 gas partial pressure of 400 mmHg is 0.015 wt.%/p.h. or less than 3.0%.

USE - The **drying agent** is useful for drying **difluoromethane** coolant or a mixed coolant contg. **difluoromethane** .

ADVANTAGE - When compared with the conventional **drying agent** , the **drying agent** of the present invention has higher **water adsorption** , **lower** gas CO2 adsorption, bigger pressure resistance and smaller wear rate.

Dwg.0/1

Title Terms: DRY; AGENT; COOLANT; CONTAIN; DI; FLUOROMETHANE; COMPRISE; TYPE; **ZEOLITE** ; CONTAIN; SODIUM; POTASSIUM; HIGH; WATER; ADSORB; WEAR; RESISTANCE
Derwent Class: E16; G04; J04
International Patent Class (Main): B01J-020/18
International Patent Class (Additional): B01D-015/00; C01B-039/14; C07C-017/389; C07C-019/08; C09K-005/04
File Segment: CPI
Manual Codes (CPI/A-N): E10-H03A3; E11-Q01; E31-P02A; E31-P02B; G04-B01; J04-E04
Chemical Fragment Codes (M3):
01 A111 A119 A313 A940 B114 B701 B712 B720 B831 C108 C802 C803 C804 C805 C807 M411 M417 M720 M781 M903 M904 N515 Q434 Q605 R032 9637-B0801-P 9637-B0801-U
02 H6 H601 H608 H684 M280 M311 M321 M342 M363 M391 M416 M620 M720 M903 M904 N164 Q434 R07374-P
Specific Compound Numbers: R07374-P
Generic Compound Numbers: 9637-B0801-P; 9637-B0801-U

35/9/32 (Item 22 from file: 350)
DIALOG(R)File 350:Derwent WPIX

010720241
WPI Acc No: 1996-217196/199622
XRAM Acc No: C96-068826
Purificn. of tetrafluoromethane contg. TRI fluoromethane - comprises contacting tetrafluoromethane mixt. with adsorbent e.g. zeolite
Patent Assignee: SHOWA DENKO KK (SHOW)
Number of Countries: 001 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 8081399	A	19960326	JP 94214861	A	19940908	199622	B
JP 2924660	B2	19990726	JP 94214861	A	19940908	199935	

Priority Applications (No Type Date): JP 94214861 A 19940908
Patent Details:
Patent No Kind Lan Pg Main IPC Filing Notes
JP 8081399 A 3 C07C-019/08
JP 2924660 B2 3 C07C-019/08 Previous Publ. patent JP 8081399

Abstract (Basic): JP 8081399 A

Purificn. of tetrafluoromethane, comprises contacting tetrafluoromethane contg. **trifluoromethane** impurity with adsorbent i.e. **zeolite** or carbonaceous adsorbent, having pore size of 2.5 - 11 Angstrom.

ADVANTAGE - Removal of **trifluoromethane** in tetrafluoromethane

which has been difficult can be attained to 10 ppm or less.
In an example, one each stainless steel cylinder of 100 ml capacity was charged with 10 ml each of three kinds of commercially-available **zeolite** followed by vacuum- **drying** . Each cylinder was, while cooling, further charged with 40 g each of tetrafluoromethane contg. 12000 ppm of **trifluoromethane** . Mixt. was occasionally stirred at room temp. About 20 hrs. later, liq. portion was subjected to analysis by gas-chromatography. Concn. of **trifluoromethane** in liq. portion in each cylinder was less than 10 ppm. In place of **zeolite** , two kinds of commercially-available carbonaceous adsorbent was used and the same procedure as above was conducted. Concn. of **trifluoromethane** in the liq. portion in each cylinder was 2580 ppm and 5844 ppm. In both cases, content of **trifluoromethane** was effectively reduced.
Dwg.0/0

Title Terms: PURIFICATION; TETRA; FLUOROMETHANE; CONTAIN; TRI; FLUOROMETHANE; COMPRISE; CONTACT; TETRA; FLUOROMETHANE; MIXTURE; ADSORB; **ZEOLITE**
Derwent Class: E16
International Patent Class (Main): C07C-019/08
International Patent Class (Additional): C07C-017/389
File Segment: CPI
Manual Codes (CPI/A-N): E10-H03A3; E11-Q01; E31-P02D
Chemical Fragment Codes (M3):
01 H6 H607 H685 H689 M280 M311 M321 M344 M363 M391 M416 M620 M720 M903 M904 M910 N163 R00378-P
02 H6 H685 M280 M311 M321 M343 M363 M391 M416 M620 M750 M903 M904 M910 N163 R00367-X
03 A100 A111 A200 A313 A940 B114 B701 B712 B720 B831 C108 C802 C803 C804 C805 C807 M411 M781 M903 M904 N163 Q508 R07707-R
Derwent Registry Numbers: 0367-U; 0378-P
Specific Compound Numbers: R00378-P; R00367-X; R07707-R

35/9/33 (Item 23 from file: 350)
DIALOG(R)File 350:Derwent WPIX

010106518
WPI Acc No: 1995-007771/199502
XRAM Acc No: C95-002804
Desiccant **for hydro-fluorocarbon refrigerant based on type 3A** zeolite **- coated with silica to reduce pore size and prepn. by immersing** zeolite **moulding in aq. sodium or potassium silicate soln., drying and activation**
Patent Assignee: UNION SHOWA KK (UNSH-N)
Inventor: ABE M; ADACHI S; HASHIMOTO M; NOGUCHI Y; TAKASHIMA S
Number of Countries: 004 Number of Patents: 005
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
DE 4417617	A1	19941201	DE 4417617	A	19940519	199502	B
FR 2705586	A1	19941202	FR 946075	A	19940518	199503	
JP 6327968	A	19941129	JP 93142540	A	19930524	199507	
US 5514633	A	19960507	US 94235694	A	19940429	199624	
JP 3213828	B2	20011002	JP 93142540	A	19930524	200164	

Priority Applications (No Type Date): JP 93142540 A 19930524
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 4417617	A1		5	B01J-020/18	
FR 2705586	A1		15	B01J-020/18	
JP 6327968	A		4	B01J-020/18	
US 5514633	A		5	B01J-029/06	
JP 3213828	B2		4	B01J-020/18	Previous Publ. patent JP 6327968

Abstract (Basic): DE 4417617 A
Desiccant (I) for **HFC - 32** , HFC-152a and mixed refrigerants contg. **HFC - 32** and/or HFC-152a in obtd. by: (a) immersing type 3A **zeolite** mouldings (II), in which 20-60% Na ions are replaced by K ions

(as ion equiv. wt.), in an aq. soln. contg. Na and/or K silicate, so that SiO2 is deposited on (II); and (b) removing (II) from the soln., drying and activation.

(II) are pellets with a dia. of 0.5-5 mm and length of 3-30 mm; or beads with a dia. of 1-7 mm. The amt. of SiO2 deposited is 0.3-5 wt.% w.r.t. **zeolite** .

(I) is prepd. as described above, pref. using an aq. soln. contg. at least 0.03 wt.% Na or K silicate.

USE - (I) is useful for drying **HFC - 32** and HFC-152a used in refrigeration and air conditioning plant.

ADVANTAGE - The SiO2 coating reduces the average effective micropore dia. of the **zeolite** by ca. 0.2 nm. This prevents adsorption of **HFC - 32** and HFC-152a (calculated mol. dia. 0.33 and 0.39 nm respectively), which otherwise are adsorbed and decomposed by type 3A **zeolite** , without the **redn** . in **water absorption** caused e.g. by high temp. firing.

Dwg.0/0

Abstract (Equivalent): US 5514633 A

A **desiccant** for **HFC - 32** , HFC-152a and blended refrigerants contg. **HFC - 32** , HFC-152a or mixts of it is obtd. by a process consisting essentially of immersing formed articles, consisting of 3A type **zeolite** having 20-60% in ion equiv. wt. of its sodium ions exchanged for potassium ions and a binder, in an aq. soln. of at least one member selected from sodium silicate and potassium silicate. Deposition of SiO2 is affected on the formed articles in an amt. of SiO2 deposited of from 0.3-5% by wt. based on the amt. of **zeolite** . The formed articles are **removed** from the **aq** . soln. and the wet formed articles **dehydrated** . The **dehydrated** formed articles are then activated.

Dwg.0/0

Title Terms: **DESICCATE** ; HYDRO; FLUOROCARBON; REFRIGERATE; BASED; TYPE; **ZEOLITE** ; COATING; SILICA; REDUCE; PORE; SIZE; PREPARATION; IMMERSE; **ZEOLITE** ; MOULD; AQUEOUS; SODIUM; POTASSIUM; SILICATE; SOLUTION; DRY; ACTIVATE

Derwent Class: J01; J07

International Patent Class (Main): B01J-020/18; B01J-029/06

International Patent Class (Additional): B01D-053/28; B01J-020/32; C07C-017/38; C07C-019/08

File Segment: CPI

Manual Codes (CPI/A-N): J01-D01

Derwent Registry Numbers: 1694-U

35/9/34 (Item 24 from file: 350)

DIALOG(R)File 350:Derwent WPIX

010045950 **Image available**

WPI Acc No: 1994-313661/199439

XRAM Acc No: C94-142809

Sepn. of 2-methyl-3-nitro-benzo-trifluoride - by contacting isomer mixt. with faujasite **Y**

Patent Assignee: TORAY IND INC (TORA)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 6239808	A	19940830	JP 9325813	A	19930215	199439	B

Priority Applications (No Type Date): JP 9325813 A 19930215

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 6239808	A		6	C07C-205/12	

Abstract (Basic): JP 6239808 A

Process comprises contacting an isomer mixt. of **methylnitrobenzotrifluoride** (MNBT) with an absorbent comprising a Y **faujasite** type **zeolite** substd. by a cation selected from K, Rb, Cs and Ba.

A part of the cation of a Y **faujasite** type **zeolite** is pref. ion-exchanged with Ag or Rb cation.

USE/ADVANTAGE - 2-Methyl-3-nitrobenzotrifluoride (2-M-3-NBT) is an intermediate for medicines and agrochemicals. 2-M-3-NBT is sepd. from MNBTs with high purity and high yield.

In an example, granules of a Na-substd. Y **faujasite** type **zeolite** were ion-exchanged with an aq. 10 wt.% KNO3 soln. 7 times to prepare a K-substd. Y **faujasite** type, **zeolite** which was calcined at 500 deg.C. for 2 hrs. and cooled to room temp.in a **desiccator** to prepare an adsorbent.

The adsorbent (1.6g) and a soln. (2.0g) comprising 2-M-3-NBT, 2-M-5-NBT, toluene and n-pentadecane (1:3:4:2 wt. ratio) were charged in a 5 ml autoclave and contacted at 150 deg.C. for 1 hr.. Then, the liq. layer was analysed and adsorption selectively (alpha) was calculated. In this case, (alpha) was 3.03.

Dwg.0/1

Title Terms: SEPARATE; METHYL; NITRO; BENZO; TRI; FLUORIDE; CONTACT; ISOMER ; MIXTURE; **FAUJASITE**
Derwent Class: B05; C03
International Patent Class (Main): C07C-205/12
International Patent Class (Additional): C07C-201/16
File Segment: CPI
Manual Codes (CPI/A-N): B10-G03; B11-B; C10-G03; C11-B
Chemical Fragment Codes (M2):
01 G014 G100 H3 H341 H6 H601 H609 H685 M210 M211 M240 M311 M321 M344 M353 M391 M414 M510 M520 M531 M540 M720 M903 M904 N162 N513 9439-14801-P
Generic Compound Numbers: 9439-14801-P

35/9/35 (Item 25 from file: 350)
DIALOG(R)File 350:Derwent WPIX

010033940 **Image available**
WPI Acc No: 1994-301653/199437
XRAM Acc No: C94-137663
XRPX Acc No: N94-237089

Drying difluoro-methane refrigerant streams - using the sodium cation form of an activated zeolitic molecular sieve **, useful in air-conditioning and refrigerant systems**

Patent Assignee: UOP (UNVO)
Inventor: CANNAN T R; COHEN A P; GREENLAY N; HINCHEY R J; LAVIN M
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 5347822	A	19940920	US 93171959	A	19931223	199437	B

Priority Applications (No Type Date): US 93171959 A 19931223
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5347822	A		6	F25B-047/00	

Abstract (Basic): US 5347822 A

In a refrigeration process wherein a refrigerant fluid contg. **difluoromethane** (R32) is cycled in a closed system and alternately vaporised and condensed to produce cooling, the improvement comprising incorporating a **desiccant** made from an activated Na cation form of a microporous zeolitic **molecular sieve** having the crystal structure of **zeolite** B, a framework Si/Al2 molar ratio of at least 2.5 and in the fully hydrated state a given x-ray diffraction pattern.

The Si/Al2 molar ratio is pref. at least 5.0, at least 75% of the zeolitic cations are Na, pref. all the metal cations are Na. The zeolitic **molecular sieve** is pref. a bonded aggregate using attapulgite clay as bonding agent.

USE - The **desiccant** sequesters water and refrigerant decompsn. prods., thereby preventing freeze-ups and corrosion in air-conditioning and refrigeration systems utilising HCFCs which are more reactive than

previously used (and ozone depleting) CFCs.
ADVANTAGE - The materials exhibit relatively low reactivity with the refrigerant, having pore openings small enough to significantly limit R32; a relatively large capacity for **water** vapour **adsorption** ; and the ability to withstand the thermal and hydrothermal stresses of being incorporated into engineered agglomerate forms.
Dwg.0/2
Title Terms: DRY; DI; FLUORO; METHANE; REFRIGERATE; STREAM; SODIUM; CATION; FORM; ACTIVATE; ZEOLITIC; MOLECULAR; SIEVE; USEFUL; AIR; CONDITION; REFRIGERATE; SYSTEM
Derwent Class: E16; G04; J07; Q75; X27
International Patent Class (Main): F25B-047/00
File Segment: CPI; EPI; EngPI
Manual Codes (CPI/A-N): E10-H04C4; G04-B01; J01-D01; J07-A08
Manual Codes (EPI/S-X): X27-F
Chemical Fragment Codes (M3):
01 H6 H601 H608 H684 M280 M311 M321 M342 M363 M391 M416 M620 M720 M903 M904 N426 N513 Q337 Q433 R07374-P
Specific Compound Numbers: R07374-P

35/9/36 (Item 26 from file: 350)
DIALOG(R)File 350:Derwent WPIX

009869391
WPI Acc No: 1994-149286/199418
XRAM Acc No: C94-068729
XRPX Acc No: N94-117188
Fire extinguishing powder compsn. - contains highly dispersed silica, hydrophobising organo-silicone fluid, additional aluminosilicate **and sylvinite or ammophos as filler**
Patent Assignee: FIRE FIGHTING RES INST (FIRD); KHARK KARBONAT PRODN ASSOC (KHKA-R)
Inventor: LEVITSKII V A; SHIKHOV B A; TRISHEVSKAYA T G
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
SU 1797923	A1	19930228	SU 4853670	A	19900725	199418	B

Priority Applications (No Type Date): SU 4853670 A 19900725
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
SU 1797923	A1		3	A62D-001/00	

Abstract (Basic): SU 1797923 A
Use of dispersed silica with a surface area of at least 100 m2g. (I) and addn. of **aluminosilicate** (II) to a mixt. for the prepn. of fire extinguishing powder is claimed. The mixt. contains (wt.%) 0.2-1.0 hydrophobising organosilicon fluid, 1-4 (I), 4-16 (II) and the rest sylvinite or ammophos as bulk component. The compsn. is prepd. by drying (I) at 100-400 deg.C to a final moisture content of 0.1-0.5%, adding (II), grinding to 10-125 micron particle size, adding the remaining components, stirring to at least 90% homogeneity and activating mechanically and chemically by grinding in ball mill at at least 10 wt/kg.
USE/ADVANTAGE - Used in **fire extinguishers** . Cheaper mixt. and reduced cakeability.
Dwg.0/0
Title Terms: FIRE; EXTINGUISH; POWDER; COMPOSITION; CONTAIN; HIGH; DISPERSE ; SILICA; HYDROPHOBIC; ORGANO; SILICONE; FLUID; ADD; **ALUMINOSILICATE** ; SYLVINITE; AMMOPHOS; FILL
Derwent Class: A26; A97; K01; P35
International Patent Class (Main): A62D-001/00
File Segment: CPI; EngPI
Manual Codes (CPI/A-N): A06-A00E; A12-W12; K01-A
Polymer Indexing (PS):
<01>

001 017; D01; P1445-R F81; S9999 S1376; S9999 S1514 S1456
002 017; ND01; Q9999 Q9369
Derwent Registry Numbers: 1694-U; 1949-U

35/9/37 (Item 27 from file: 350)
DIALOG(R)File 350:Derwent WPIX

009857764 **Image available**
WPI Acc No: 1994-137620/199417
XRPX Acc No: N94-108113

Refrigerant compressor for refrigerator with porous filter. - uses porous filter with small pore size in refrigerant flow passage and possibly with drier in the flow passage or separate filter casing.

Patent Assignee: MATSUSHITA REFRIGERATION CO (MATJ)
Inventor: ITO S; KAWAI H; KAWASHIMA T; MANGYO M; NAKAOKA S; WADA S; YAKUSHI S
Number of Countries: 006 Number of Patents: 010
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 594431	A2	19940427	EP 93308386	A	19931021	199417	B
US 5402655	A	19950404	US 93140908	A	19931025	199519	
EP 594431	A3	19950301				199541	
US 5562427	A	19961008	US 93140908	A	19931025	199646	
			US 94296382	A	19940826		
EP 594431	B1	19980107				199806	
DE 69316149	E	19980212	DE 616149	A	19931021	199812	
			EP 93308386	A	19931021		
KR 119960	B1	19971022	KR 9322008	A	19931022	199948	
JP 3027486	B2	20000404	JP 9322332	A	19930210	200022	
KR 151546	B1	19981102	KR 9322008	A	19931022	200028	
			KR 9725246	A	19970617		
JP 3292753	B2	20020617	JP 92285732	A	19921023	200242	

Priority Applications (No Type Date): JP 9322333 A 19930210; JP 92285732 A 19921023; JP 9322332 A 19930210
Cited Patents: No-SR.Pub; DE 2656664; DE 4035071; US 4266408; US 4811571
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 594431	A2	E	24	F25B-043/00	
Designated States (Regional): DE GB IT					
US 5402655	A		22	C10M-105/38	
US 5562427	A		22	F04B-039/16	Div ex application US 93140908
					Div ex patent US 5402655
EP 594431	B1	E	26		
Designated States (Regional): DE GB IT					
DE 69316149	E				Based on patent EP 594431
KR 119960	B1			F25B-001/00	
JP 3027486	B2		11	F25B-043/00	Previous Publ. patent JP 6235569
KR 151546	B1			F25B-043/00	Div ex application KR 9322008
JP 3292753	B2		3	F25B-043/00	Previous Publ. patent JP 6137720

Abstract (Basic): EP 594431 A

A porous filter (53,54) with pore size not exceeding 80 micrometer is in the refrigerant flow passage of a refrigerator system (50). filter may be provider with a drier (51) in the refrigerant passage or in a sealed casing (6) of a refrigerant compressor (1) incorporated in the refrigerator system.

The drier (51a) has a cover (121) fixed to an outlet of a copper case of a drier . A strainer (125) is at the inlet side of the case and a 150 mesh size metal screen (127) is at the outlet. Between them is a solid core (126) comprising a moulded porous filter.

ADVANTAGE/USE - Filter facilitates use of freon-134a and ester lubricating oil but captures contaminants.

Dwg.4/22

Abstract (Equivalent): EP 594431 B

A porous filter (53,54) with pore size not exceeding 80 micrometer

is in the refrigerant flow passage of a refrigerator system (50). filter may be provider with a drier (51) in the refrigerant passage or in a sealed casing (6) of a refrigerant compressor (1) incorporated in the refrigerator system.

The drier (51a) has a cover (121) fixed to an outlet of a copper case of a drier . A strainer (125) is at the inlet side of the case and a 150 mesh size metal screen (127) is at the outlet. Between them is a solid core (126) comprising a moulded porous filter.

ADVANTAGE/USE - Filter facilitates use of freon-134a and ester lubricating oil but captures contaminants.

Dwg.1,2/22

Abstract (Equivalent): US 5562427 A

A refrigerant compressor comprising:

a sealed casing;

a motor provided in said sealed casing;

a compressing unit provided in said sealed casing to be driven by said motor; and

a porous filter provided in at least one of a refrigerant induction passage and a refrigerant discharge passage of said compressing unit,

wherein said porous filter is formed of a molded solid material constituted by **alumina** , **silica** gel, calcium sulfide and **aluminosilicate** .

11,12/22

US 5402655 A

The refrigeration system comprises a series of refrigerant flow passage including a refrigerant compressor, a condenser, an expansion mechanism and an evaporator. A refrigerant contains as a main component, a **carbon fluoride** compound which contains no chlorine. A lubricating oil contains an ester as a main component, the lubricating oil having solubility with the refrigerant.

A filter is provided in the refrigerant flow passage, the filter having a pore size of no more than 80 microns for capturing a material generated due to dissolution of an organic substance by the ester contained in the lubricating oil. The filter is formed of one of porous sintered metal, porous burnt-hard **desiccant** , porous ceramic, porous resin, porous metallic fibre, porous paper and porous non-woven fibre.

USE - Hermetic refrigerant compressor which reduces environmental pollution due to CFCs.

Dwg.5/22

Title Terms: REFRIGERATE; COMPRESSOR; REFRIGERATE; POROUS; FILTER; POROUS; FILTER; PORE; SIZE; REFRIGERATE; FLOW; PASSAGE; POSSIBILITY; DRY; FLOW; PASSAGE; SEPARATE; FILTER; CASING

Derwent Class: Q56; Q75; X25; X27

International Patent Class (Main): C10M-105/38; F04B-039/16; F25B-001/00; F25B-043/00

International Patent Class (Additional): F04C-029/00

File Segment: EPI; EngPI

Manual Codes (EPI/S-X): X25-L03B; X27-F02C1

35/9/38 (Item 28 from file: 350)

DIALOG(R)File 350:Derwent WPIX

008813570

WPI Acc No: 1991-317583/199143

XRAM Acc No: C91-137289

XRPX Acc No: N91-243378

Low ozone depletion potential fire extinguishing compsns. - contg. bromodichloromethane, dichlorotrifluoroethane and dry powder of e.g. ammonium (poly)phosphate, sodium bicarbonate, etc.

Patent Assignee: POWSUS INC (POWS-N)

Inventor: MACELWEE D B; STEWART H E

Number of Countries: 021 Number of Patents: 007

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 5055208	A	19911008	US 91636773	A	19910102	199143	B
WO 9211903	A1	19920723	WO 91US9807	A	19911227	199232	

AU 9191743	A	19920817	AU 9191743	A	19911227	199245
			WO 91US9807	A	19911227	
EP 517904	A1	19921216	WO 91US9807	A	19911227	199251
			EP 92903913	A	19911227	
HU 62491	T	19930528	WO 91US9807	A	19911227	199326
			HU 922797	A	19911227	
CZ 9202744	A3	19930414	CS 922744	A	19920902	199332
EP 517904	A4	19930602	EP 92903913	A	19920000	199526

Priority Applications (No Type Date): US 91636773 A 19910102
Cited Patents: US 2653130; US 2821257; US 3106530; US 3276999; US 3480545; US 4459213; US 4908161; US 4920154; 3.Jnl.Ref; EP 383443; JP 57075667; JP 59197267; JP 60153879
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9211903	A1	E	11	A62D-001/00	
Designated States (National): AU CS HU JP PL					
Designated States (Regional): AT BE CH DE DK ES FR GB GR IT LU MC NL SE					
AU 9191743	A			A62D-001/00	Based on patent WO 9211903
EP 517904	A1	E	11	A62D-001/00	Based on patent WO 9211903
Designated States (Regional): AT DE ES					
HU 62491	T			A62D-001/00	Based on patent WO 9211903
CZ 9202744	A3			A62D-001/06	

Abstract (Basic): US 5055208 A

A non-aq., low ozone depletion potential fire-extinguishing compsn. comprises a dry powder fire-extinguishing agent dispersed in an organic liq. fire-extinguishing agent. The improvement comprises using bromodichloromethane or dichlorotrifluoroethane as the liq. agent.

The dry powder is pref. NaHCO3, monoammonium phosphate, ammonium polyphosphate, KHCO3, sodium borate or mixts. The dry powder is pref. a mixt. of NaHCO3 and sodium borate in a wt. ratio of 1:1-4:1 and of particle size 0.1-500 microns. The compsn. opt. contains a volatile liq. organic fire-extinguishing agent (pref. **trifluoromethane** having a critical vapour pressure of less than that of bromodichloromethane and a gelling agent comprising fumed **silica / alumina** .

USE/ADVANTAGE - The fire-extinguishing compsns. are useful for Class A, B and C fires, e.g. grease fires on stove tops.

In an example, a compsn. contg. 160 g of KHCO3 dispersed in 232 g of bromodichloromethane and 8 g of **trifluoromethane** , gelled with 0.5 wt.% of Coke-84 fumed **silica / alumina** was prepd. The compsn. took 3.5 secs. to extinguish a standard test gasoline fire on a bed of water in a square pan of 2.5 sq.ft. area, thereby earning a 1-B fire rating. (3pp Dwg.No.0/0)

Title Terms: LOW; OZONE; DEPLETED; POTENTIAL; FIRE; EXTINGUISH; COMPOSITION ; CONTAIN; BROMO; DI; CHLOROMETHANE; DI; CHLORO; TRI; FLUOROETHANE; DRY; POWDER; AMMONIUM; POLY; PHOSPHATE; SODIUM; BI; CARBONATE
Derwent Class: E16; E37; K01; P35
International Patent Class (Main): **A62D-001/06**
International Patent Class (Additional): **A62C-002/00** ; **A62D-001/08** ; C01B-033/12
File Segment: CPI; EngPI
Manual Codes (CPI/A-N): E10-H02B; E10-H02D; K01-A
Chemical Fragment Codes (M3):
01 H6 H601 H602 H608 H609 H684 H685 H686 M280 M312 M321 M332 M344 M363 M391 M416 M620 M782 M903 M904 Q441 R08462-M R13001-M R13002-M
00 H6 H602 H603 H608 H686 M280 M311 M321 M343 M363 M391 M416 M620 M782 M903 M904 Q441 R19831-M
Derwent Registry Numbers: 1202-U; 1529-U; 1731-U
Specific Compound Numbers: R08462-M; R13001-M; R13002-M; R19831-M

35/9/39 (Item 29 from file: 350)

008655392
WPI Acc No: 1991-159419/199122

XRAM Acc No: C91-068862
Tetrafluoroethane compsn. for refrigerator - contains potassium-A type synthetic zeolite , **which is and effective** desiccant
Patent Assignee: ASAHI GLASS CO LTD (ASAG)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 3093880	A	19910418	JP 89229315	A	19890906	199122	B

Priority Applications (No Type Date): JP 89229315 A 19890906

Abstract (Basic): JP 3093880 A

A tetrafluoroethane compsn. for refrigerators consists of tetrafluoroethanee and K A-type synthetic **zeolite** .

In case of conventional refrigerant carriers like dichloro-**difluoromethane** and **chlorodifluoromethane** , Na A-type synthetic **zeolite** has been used as a **desiccant** . But **HFC 134a** is smaller mol. than these conventional refrigerant carriers and so a K A-type synthetic **zeolite** is used.

USE/ADVANTAGE - The compsn. is suitable as a refrigerant carrier. 1,1,1,2-Tetrafluoroethane (**HFC 134a**) is less reactive with K A-type synthetic **zeolite** and so is very stable in its performance as a refrigerant carrier. K A-type **zeolite** is also effective as a **desiccant** . (2pp Dwg.No.0/0)

Title Terms: TETRA; FLUOROETHANE; COMPOSITION; REFRIGERATE; CONTAIN; POTASSIUM; TYPE; SYNTHETIC; **ZEOLITE** ; EFFECT; **DESICCATE**
Derwent Class: E16; G04; J07
International Patent Class (Additional): C09K-005/00
File Segment: CPI
Manual Codes (CPI/A-N): E10-H02B; E31-P02B; G04-B01; J07-A08
Chemical Fragment Codes (M3):
01 A119 A313 A940 B114 B701 B712 B720 B831 C108 C802 C803 C804 C805 C807 M411 M782 M903 M904 Q337 Q433 9122-C3201-M
02 H6 H601 H681 H685 M280 M312 M321 M332 M344 M363 M391 M416 M620 M782 M903 M904 Q337 Q433 R16596-M
Specific Compound Numbers: R16596-M
Generic Compound Numbers: 9122-C3201-M

35/9/40 (Item 30 from file: 350)
DIALOG(R)File 350:Derwent WPIX

008442318
WPI Acc No: 1990-329318/199044
XRAM Acc No: C90-142960
XRPX Acc No: N90-252105
Metal fire extinguishing agent - contains boron oxide, glass beads or silica alumina **microspheres**
Patent Assignee: SHINETSU HANDOTAI CO LTD (SHHA); SHIN-ETSU HANDOTAI (ETSU-N)
Inventor: YAMAGUCHI H
Number of Countries: 005 Number of Patents: 006
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 395322	A	19901031	EP 90304292	A	19900420	199044	B
JP 2286179	A	19901126	JP 89108110	A	19890427	199102	
US 5053146	A	19911001	US 90513906	A	19900424	199142	
EP 395322	B1	19931020	EP 90304292	A	19900420	199342	
DE 69003994	E	19931125	DE 603994	A	19900420	199348	
			EP 90304292	A	19900420		
JP 94059330	B2	19940810	JP 89108110	A	19890427	199430	

Priority Applications (No Type Date): JP 89108110 A 19890427
Cited Patents: DE 3830122; EP 323250; GB 1063207; US 3055435; EP 323350
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 395322	A				

Designated States (Regional): DE FR GB
EP 395322 B1 E 8 A62D-001/00
Designated States (Regional): DE FR GB
DE 69003994 E A62D-001/00 Based on patent EP 395322
JP 94059330 B2 4 A62D-001/00 Based on patent JP 2286179

Abstract (Basic): EP 395322 A

Agent (I) contains 70-95 wt.% boron oxide powder (II) of 5-1000 micron particle dia. plus 5-30% of (i) hydrophobic glass beads (5-200 micron dia.) or (ii) hollow SiO2/Al2O3 microspheres (50-600 micron dia.). Powder (II) contains below 2 wt.% H2O and above 90 wt% B2O3. Beads may be rendered hydrophobic by dipping in a soln. of an organosilicon cpd. and air drying. Opt. (I) further contains hydrophobic SiO2 powder (90-130 micron dia.).

USE ADVANTAGE - (I) is sprinkled on burning metal fires (claimed). Metal is e.g. Mg, Al, Ti, Nd etc. (I) does not cake, has enhanced flowability and is stable w.r.t . ejection from **fire extinguishers** .

Dwg.0/0

Abstract (Equivalent): EP 395322 B

A powdery fire extinguishing agent which is a blend comprising:- (a) from 95 percent to 70 percent by weight of a powder of boron oxide having a particle diameter in the range from 5 to 1000 micron, of which the content of B2O3 is at least 90 percent by weight and the content of water does not exceed 2 percent by weight; and (b) from 5 percent to 30 percent by weight of an inorganic powder of particles having a generally spherical particle configuration, which are either (b-1) glass beads having a particle diameter in the range from 5 to 200 microns and rendered hydrophobic on the surface, or (b-2) hollow microspheres of **silica - alumina** having a particle diameter in the range from 50 to 600 micron.

Dwg.0/0

Abstract (Equivalent): US 5053146 A

A fire extinguishing powder is a mixt. of wt% (A) 95-70 powder of particle size 5-1000 micrometre, consisting of at least 90 B2O3 and contg. less than 2 water and (B) 5-30 inorganic spherical shaped powder made of a) glass beads of dia. 5-200 micrometre and surface hydrophobised or (b) hollow SiO2/Al2O3 microspheres of dia. 50-600 micrometre. USE/ADVANTAGE - Esp. to extinguish burning metals, e.g. Mg, Zr, Nd, Na; the powder retains its flowability during long term storage in a **fire extinguisher** .

(5pp

Title Terms: METAL; FIRE; EXTINGUISH; AGENT; CONTAIN; BORON; OXIDE; GLASS; BEAD; SILICA; ALUMINA; MICROSPHERE
Derwent Class: E36; K01; P35
International Patent Class (Main): A62D-001/00
International Patent Class (Additional): A62C-003/06
File Segment: CPI; EngPI
Manual Codes (CPI/A-N): E31-P03; E31-Q04; K01-A
Chemical Fragment Codes (M3):
01 B105 B114 B702 B712 B720 B803 B831 B832 C108 C800 C802 C803 C804 C805 C807 M411 M782 M903 M904 M910 Q441 Q621 R036 R01498-M R01694-M
02 A313 A940 C108 C550 C730 C801 C802 C803 C804 C805 C807 M411 M782 M903 M904 M910 Q441 Q621 R036 R01544-M
Derwent Registry Numbers: 1498-U; 1544-U; 1694-U
Specific Compound Numbers: R01498-M; R01694-M; R01544-M

35/9/41 (Item 31 from file: 350)
DIALOG(R)File 350:Derwent WPIX

007234907
WPI Acc No: 1987-231915/198733
XRAM Acc No: C87-097813
Water-alcohol mixt. sepn. by ultra critical fluid - by contacting water **-alcohol mixt. with** adsorption **agent in presence of fluid, to** absorb water **in agent, and vacuuming fluid contg. alcohol**
Patent Assignee: IDEMITSU PETROCHEM CO (IDEM)

Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 62155908	A	19870710	JP 85298519	A	19851228	198733	B

Priority Applications (No Type Date): JP 85298519 A 19851228
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 62155908	A		5		

Abstract (Basic): JP 62155908 A

Water/alcohol mixt. is contacted with adsorption agent in presence of ultra crytical fluid, to **adsorb water** in the **adsorption** agent. The ultra crytical fluid contg. alcohol is vacuumed and/or heated to separate alcohol from the ultra crytical fluid. Pref. ultra crytical fluid is e.g. CO2, dimethyl or methylethylether, (m)ethane, propane, butane, pentane, hexane, ethylene, propylene, **chlorotrifluoromethane** , benzene, toluene, ammonia or nitrogen oxide. The adsorption agent is e.g. A-, X-, Y- or L-type **zeolite** , alumina, active carbon or silica. The contacting conditions are e.g. fluid is CO2, alcohol is ethylalcohol, adsorption agent is A-type **zeolite** , pressure is 70-300 atm., temp. is 25-200 deg.C, contacting time is 0.1-10 hr., flow ratio of fluid/alcohol soln. is 0.5-15.

USE/ADVANTAGE - The method is pref. used for sepn. of ethylalcohol from ethylalcohol/water mixt. The method has high adsorption speed, simple operation and uses small adsorption column.

0/1

Title Terms: WATER; ALCOHOL; MIXTURE; SEPARATE; ULTRA; CRITICAL; FLUID; CONTACT; WATER; ALCOHOL; MIXTURE; ADSORB; AGENT; PRESENCE; FLUID; ABSORB; WATER; AGENT; VACUUM; FLUID; CONTAIN; ALCOHOL
Derwent Class: D16; E17; J01
International Patent Class (Additional): B01D-015/00
File Segment: CPI
Manual Codes (CPI/A-N): D05-D; E10-E04E2; E11-Q01; E31-N04C; E31-P03; E34-C02; J01-D01
Chemical Fragment Codes (M3):
01 A313 A940 B114 B702 B720 B831 C108 C550 C730 C800 C801 C802 C803 C804 C805 C807 M411 M781 M903 M904 M910 N164 Q232 Q431 Q508 R01544-R R01694-R
02 C106 C810 M411 M781 M903 M904 M910 N164 Q232 Q431 Q508 R01669-R
03 H4 H401 H481 H8 M210 M211 M212 M213 M214 M215 M216 M220 M221 M222 M223 M224 M225 M226 M231 M232 M233 M272 M281 M320 M416 M620 M720 M903 M904 N164 N512 N513 N514 N523 N524 Q232 Q431 8733-C8001-P
04 A100 A111 A200 A313 A940 B114 B701 B712 B720 B831 C108 C802 C803 C804 C805 C807 M411 M781 M903 M904 N164 Q232 Q431 Q508 8733-C8002-R
Derwent Registry Numbers: 0245-S; 0306-S; 0323-S; 0325-S; 0326-S; 0335-S; 0377-S; 0804-S; 0862-S; 0879-S; 0904-S; 0964-S; 1066-S; 1544-U; 1669-U; 1694-U; 1713-S; 1784-S
Specific Compound Numbers: R01544-R; R01694-R; R01669-R
Generic Compound Numbers: 8733-C8001-P; 8733-C8002-R

35/9/42 (Item 32 from file: 350)
DIALOG(R)File 350:Derwent WPIX

004731334
WPI Acc No: 1986-234676/198636
XRAM Acc No: C86-100882
XRPX Acc No: N86-175079
Powdered fire extinguisher **for metal fires - contains anhydrous sodium carbonate, anhydrous potassium carbonate, anhydrous lithium carbonate, grinding aid and surface-treating agent**
Patent Assignee: DORYOKURO KAKUNENRYO KAIHATSU (DORY); NIPPON DRY CHEM KK (NIDR-N)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week

JP 61162963 A 19860723 JP 854021 A 19850116 198636 B

Priority Applications (No Type Date): JP 854021 A 19850116
Patent Details:
Patent No Kind Lan Pg Main IPC Filing Notes
JP 61162963 A 3

Abstract (Basic): JP 61162963 A
Fire extinguishing compsn. metal fires (e.g. of Na, Mg, Al, Ti etc.) contains anhydrous sodium carbonate (e.g., 31.5 mole.%) anhydrous potassium carbonate e.g., (e.g., 25.0 mole.%), and anhydrous lithium carbonate (e.g., 43.5 mole.%) together with small amts. of a grinding aid (e.g., fine **silica** , **alumina** , talc, graphite, molybdenum sulphide, etc.) and a surface-treating agent (e.g., polysiloxanes, silanes, metal stearates, etc.).
USE/ADVANTAGE - Compsn. can effectively put out metal fires by easily adhering to the metals on fire. The **fire extinguisher** is effectively used in atomic power stations, metal cutting shops, etc.
(3pp Dwg.No 0/0)
Title Terms: POWDER; FIRE; EXTINGUISH; METAL; FIRE; CONTAIN; ANHYDROUS; SODIUM; CARBONATE; ANHYDROUS; POTASSIUM; CARBONATE; ANHYDROUS; LITHIUM; CARBONATE; GRIND; AID; SURFACE; TREAT; AGENT
Derwent Class: K01; K06; P35
International Patent Class (Additional): A62C-003/06; A62D-001/00
File Segment: CPI; EngPI
Manual Codes (CPI/A-N): K01-A
Derwent Registry Numbers: 1287-U; 1366-U; 1391-U; 1541-U; 1544-U; 1694-U; 1778-U; 1952-U

35/9/43 (Item 33 from file: 350)
DIALOG(R)File 350:Derwent WPIX

003946818
WPI Acc No: 1984-092362/198415
XRAM Acc No: C84-039477
Acetal prepn. in high yield - by reacting 1-acylphenol with an alcohol in presence of acid catalyst and dehydrating **agent**
Patent Assignee: MITSUI PETROCHEM IND CO LTD (MITC)
Number of Countries: 001 Number of Patents: 002
Patent Family:
Patent No Kind Date Applicat No Kind Date Week
JP 59039842 A 19840305 JP 82150056 A 19820831 198415 B
JP 89014889 B 19890314 198914

Priority Applications (No Type Date): JP 82150056 A 19820831
Patent Details:
Patent No Kind Lan Pg Main IPC Filing Notes
JP 59039842 A 4

Abstract (Basic): JP 59039842 A
Prepn. of acetal of formula (I) comprises reacting 2-acylphenol of formula (II) with an alcohol in the presence of an acid catalyst and a **dehydrating** agent. In the formulae, R2 and R3 are hydrocarbyl or R2 coupled with R3 may form alkylene gp.; R' is H or hydrocarbyl.
Alcohol is e.g. ethylene glycol, propylene glycol, neopentyl glycol, hexylene glycol, glycerol. Acid catalyst is e.g. sulphuric acid, HCl, phosphoric acid, p-toluenesulphonic acid, **trifluoromethane** sulphonic acid,cation exchange resin, Lewis acid such as boron trifluoride ether complex. **Dehydrating** agent is e.g. methyl orthoformate, ethylene carbonate, **zeolite** , **molecular sieve** , P2O5, POCl3, PCl3, SO2Cl..
0/0
Title Terms: ACETAL; PREPARATION; HIGH; YIELD; REACT; ACYL; PHENOL; ALCOHOL ; PRESENCE; ACID; CATALYST; **DEHYDRATE** ; AGENT
Derwent Class: E13; E14
International Patent Class (Additional): B01J-027/02; B01J-031/02;

C07B-061/00; C07C-041/50; C07C-043/31; C07D-317/20; C07D-319/06
File Segment: CPI
Manual Codes (CPI/A-N): E07-H02; E10-A23; N01-D; N04; N05-B; N05-E
Chemical Fragment Codes (M3):
01 F012 F014 F015 F017 F019 F140 F163 G011 G100 H4 H401 H402 H403 H441 H481 H482 H8 M113 M210 M211 M220 M225 M226 M231 M232 M233 M240 M281 M282 M311 M321 M322 M342 M373 M391 M392 M413 M414 M510 M520 M521 M531 M540 M720 M903 N209 N243 N262 N421 N442
02 B105 B115 C017 C100 C101 C316 C540 M411 M414 M416 M730 M903 Q421
Ring Index Numbers: 00262

35/9/44 (Item 34 from file: 350)
DIALOG(R)File 350:Derwent WPIX

003927446
WPI Acc No: 1984-072990/198412
XRAM Acc No: C84-031703
XRPX Acc No: N84-054701
Fire extinguishing powder compsn. prepn. - by dissolving polyurea, and alkali carbonate in water in presence of aluminosilicate , **poly-meta-phosphate and specified surfactant**
Patent Assignee: AS UKR COLLOID CHEM (AUCO); KIEV FIRE FIGHTING RES (FIRD)
Inventor: KACHANOVSK L D; NADUBOV V A; OVCHARENKO F D
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
SU 1018652	A	19830523	SU 2983007	A	19800708	198412	B

Priority Applications (No Type Date): SU 2983007 A 19800708
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
SU 1018652	A		3		

Abstract (Basic): SU 1018652 A
Higher quality powder compsn. for use in **fire extinguishers** , with reduced moisture absorption and tendency to cake, and suitable for fighting burning liquids, is obtd. as follows. A 0.5:5 to 5:0.5 mixt. of urea and alkali carbonate is dissolved in water in the presence of an **aluminosilicate** (I), polymetaphosphate of formula (MePO3)n where Me is Na or K and n= 1-200, and a quaternary ammonium salt contg. 8-24C chain (II) as surfactant. The mixt. is then subjected to heat treatment beginning at 180-270 deg. and ending at 105-180 deg. The **aluminosilicate** (I) is chosen from the group contg. bentonite, phlogopite, vermiculite and opal crystallobalite group mineral.
A typical mixt. contains (in wt.%): KC2N2H3O3 55, (I) 30, (II) 3, (KPO3)200 1 and a dye 2. Use of the above components reduces the water absorption of the mixt. by 10-15 times and tendency to cake by 80-100%. Bul. 19/23.5.83.
(3pp Dwg. No. 0/0
Title Terms: FIRE; EXTINGUISH; POWDER; COMPOSITION; PREPARATION; DISSOLVE; POLYUREA; ALKALI; CARBONATE; WATER; PRESENCE; **ALUMINOSILICATE** ; POLY; META; PHOSPHATE; SPECIFIED; SURFACTANT
Derwent Class: K01; P35
International Patent Class (Additional): A62D-001/00
File Segment: CPI; EngPI
Manual Codes (CPI/A-N): K01-A
Derwent Registry Numbers: 0123-U; 1949-S

35/9/45 (Item 35 from file: 350)
DIALOG(R)File 350:Derwent WPIX

003887514
WPI Acc No: 1984-033056/198406

XRAM Acc No: C84-013959
XRPX Acc No: N84-024896
Ammonium phosphate compsn. for powder fire extinguisher **- contains inorganic, cationic or amphoteric ion exchanger and phosphate from wet process phosphoric acid**
Patent Assignee: MITSUI TOATSU CHEM INC (MITK)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 58221963	A	19831223	JP 82104003	A	19820618	198406	B

Priority Applications (No Type Date): JP 82104003 A 19820618
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 58221963	A		4		

Abstract (Basic): JP 58221963 A
The compsn. comprises ammonium phosphate obtd. using, as a raw material, phosphoric acid produced by wet process, and inorganic ion exchanger (e.g. **zeolite**) or cationic or ampho-ion exchanger.
The compsn. is used as a raw material for a powder type fire-extinguishing agent. The compsn. has reduced heavy metal content. In an example, when amt. of Cd eluted from phosphoric ammonium is 1-2 pp., the amt. of the ion exchanger added is 1-3 wt.%.
0/0
Title Terms: AMMONIUM; PHOSPHATE; COMPOSITION; POWDER; FIRE; EXTINGUISH; CONTAIN; INORGANIC; CATION; AMPHOTERIC; ION; EXCHANGE; PHOSPHATE; WET; PROCESS; PHOSPHORIC; ACID
Derwent Class: E35; K01; P35
International Patent Class (Additional): A62D-001/00
File Segment: CPI; EngPI
Manual Codes (CPI/A-N): E31-K05; K01-A
Chemical Fragment Codes (M3):
01 B115 B701 B713 B720 B815 B831 C108 C500 C802 C804 C807 M411 M782 M903 M910 Q441 R036
02 A100 A313 A940 B114 B701 B712 B720 B831 C108 C802 C803 C804 C805 C807 M411 M782 M903 Q441 Q508 R036
Derwent Registry Numbers: 1711-S; 1913-U

35/9/46 (Item 36 from file: 350)
DIALOG(R)File 350:Derwent WPIX

003747588
WPI Acc No: 1983-743791/198334
XRAM Acc No: C83-080146
XRPX Acc No: N83-148045
Fire extinguishing compsn. - comprising carrier contg. halohydrocarbon and propellant
Patent Assignee: TOYO AEROSOL KOGYO KK (TOAE-N)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 58118772	A	19830714				198334	B

Priority Applications (No Type Date): JP 8225 A 19820105
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 58118772	A		4		

Abstract (Basic): JP 58118772 A
Extinguishing agent comprises carrier contg. halogenated hydrocarbon and propellant which carries the halogenated hydrocarbon to the fire. The halogenated hydrocarbon having rather low b.pt. is delivered to the fire without evapn..
The halogenated hydrocarbon includes monobromo **trifluoromethane** , monobromo difluoro monochloromethane, dibromo tetrafluoroethane, etc..

The carrier includes sodium carbonate, sodium bicarbonate, sodium phosphate, **silica** , **alumina** , magnesium oxide, calcium oxide, etc.. The propellant includes carbon dioxide gas, nitrogen gas, dichloro **difluoromethane** , CBrF3, CBrClF2, etc..

0/0

Title Terms: FIRE; EXTINGUISH; COMPOSITION; COMPRISE; CARRY; CONTAIN; HALOCARBON; PROPELLANT
Derwent Class: K01; P35
International Patent Class (Additional): **A62C-001/02** ; **A62D-001/06**
File Segment: CPI; EngPI
Manual Codes (CPI/A-N): K01-A

35/9/47 (Item 37 from file: 350)

DIALOG(R)File 350:Derwent WPIX

002051487
WPI Acc No: 1978-64547A/197836
Powdery fire extinguisher **compsn. - contg. alkali metal salt cpd. and nonflammable silica or alumina**
Patent Assignee: FUKADA KOGYO KK (FKKI)
Number of Countries: 001 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 78021240	B	19780701				197836	B
JP 50091996	A	19750723				197836	

Priority Applications (No Type Date): JP 73143236 A 19731219

Abstract (Basic): JP 78021240 B

A powdery **fire extinguisher** consists of >=1 cpd. of alkaline metal salts e.g. ammonium, K, Na, etc., and non-combustible, fine hollow material such as **silica** , **alumina** etc. Pref. cpds. are KHCO3, K2SO4, (NH4)3PO4, NaCl, etc.

Title Terms: POWDER; FIRE; EXTINGUISH; COMPOSITION; CONTAIN; ALKALI; METAL; SALT; COMPOUND; NON; FLAMMABLE; SILICA; ALUMINA
Derwent Class: E37; K01; P35
International Patent Class (Additional): A62D-001/00
File Segment: CPI; EngPI
Manual Codes (CPI/A-N): E31-K05; E31-P03; E33; E34-C02; E34-G02; K01-A
Chemical Fragment Codes (M3):
01 A111 A940 C730 C101 C108 C100 C106 C316 C803 C806 C802 C807 C805 C804 C801 A119 C500 C530 C540 B115 C017 B701 B713 Q441 M782 R032 R035 R036 M411 M902
02 A940 C800 C730 C108 C803 C802 C807 C805 C804 C801 C550 A313 B114 B702 Q431 M782 R032 R035 R036 M411 M902

35/9/48 (Item 38 from file: 350)

DIALOG(R)File 350:Derwent WPIX

001791886
WPI Acc No: 1977-12850Y/197708
Fire extinguisher **compsns. with a liq. base - e.g. water, oil or fluorocarbon, and an insoluble powder additive**
Patent Assignee: HERBLINNE C (HERB-I)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
BE 847322	A	19770131				197708	B

Priority Applications (No Type Date): BE 847322 A 19761015

Abstract (Basic): BE 847322 A

The compsns. comprise an incombustible powder (I) added to a liq. (II) in which the (I) is insoluble, and which has higher density than

the (I). The (I) is pref. an anti-caking agent such as **silica** , **alumina** or sodium oxide. The liq. (II) may be a mixt. and may contain e.g. pure water, sea water, an oil, or halogen cpds. such as **chlorobromodifluoromethane** .

The prods. are non toxic, easy to make, and can be projected over large distances to the fire. They have good blanketing action and can be used with a wide variety of fires, including hydrocarbon fires

Title Terms: FIRE; EXTINGUISH; COMPOSITION; LIQUID; BASE; WATER; OIL; FLUOROCARBON; INSOLUBLE; POWDER; ADDITIVE

Derwent Class: E16; K01; P35

International Patent Class (Additional): **A62D-000/00**

File Segment: CPI; EngPI

Manual Codes (CPI/A-N): E31-P02; E31-P03; E33-A; E34-C02; K01-A

Chemical Fragment Codes (M3):

01 A111 A940 C800 C730 C108 C803 C802 C807 C805 C804 B720 C801 C550 B831 A313 B114 B702 Q441 Q601 M781 R021 R022 R023 R024 M411 M902

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